

Award Number: W81XWH-11-1-0793

TITLE: Beck PRIDE Center – An Effective Solution for Combat Injured Student Veterans

PRINCIPAL INVESTIGATOR: Dr. Susan Hanrahan

CONTRACTING ORGANIZATION: Arkansas State University
State University (Jonesboro), AR

REPORT DATE: September 2016

TYPE OF REPORT: Final

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;
Distribution Unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE September 2016		2. REPORT TYPE Final		3. DATES COVERED 9Sep2011 - 30Jun2016	
4. TITLE AND SUBTITLE Beck PRIDE Center – An Effective Solution for Combat Injured Student Veterans				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER W81XWH-11-1-0793	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Dr. Susan Hanrahan E-Mail: hanrahan@astate.edu				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Arkansas State University Beck PRIDE Center PO Box 910 State University (Jonesboro), AR 72467-0910				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution Unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT One purpose of the study is to evaluate the effects of hippotherapy on motor performance in individuals with disabilities. Fifty veterans will be recruited and receive traditional physical therapy and physical therapy including hippotherapy. Measures will be taken after each session and analyzed. This study will also evaluate the impact of the Beck PRIDE Center on health and well being and quality of life. It will document veteran completion of referrals and engagement with care across six domain areas. It will develop a program implementation manual that can be distributed to other educational institutions.					
15. SUBJECT TERMS Nothing listed					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			USAMRMC
U	U	U	UU	54	19b. TELEPHONE NUMBER (include area code)

Table of Contents

	<u>Page</u>
Introduction.....	4
Body.....	5
Key Research Accomplishments.....	21
Reportable Outcomes.....	22
Conclusion.....	23
References.....	24
Appendices.....	25

INTRODUCTION

- 1) One purpose of the study was to evaluate the effects of hippotherapy on motor performance in individuals with disabilities. Fifty veterans were recruited and received traditional physical therapy and physical therapy including hippotherapy. Measures were taken after each session and analyzed.
- 2) This study also evaluated the impact of the Beck PRIDE Center on health and well being and quality of life.
- 3) It documented veteran completion of referrals and engagement with care across six domain areas.
- 4) It developed a program implementation manual that was distributed to other educational institutions.

The significance of these areas of investigation furthered the model for civilian institutions to engage combat veterans with disabilities and their families on reintegration post employment.

BODY

Summary of Hippotherapy DoD work

A collection of single subject case studies were used to examine the effects of motor performance in subjects while using hippotherapy. The study used an A-B design in which treatment A was traditional therapy and hippotherapy, while treatment B was traditional therapy. Several veterans participated in the study with a variety of neurological and orthopedic issues. Neurological conditions included stroke and traumatic brain injury. Orthopedic issues included back, neck, knee, and shoulder pain. A coin flip determined if the veteran received Treatment A or Treatment B first. The following is a synopsis of the presentations and publication that resulted from this study.

For the hippotherapy project, forty eight veterans were referred and signed the consent form to participate. All veterans were referred through the Beck PRIDE Center. Twenty four veterans completed the study with some data points in Treatment A and Treatment B. Fourteen veterans completed both phases of the study. Ten completed only a portion of the second treatment in the study. These ten did not return for unknown reasons/unable to contact (10). Twenty four veterans only completed one phase of the treatment. Of these twenty four, one moved out of town and the other twenty three did not return due to illness(4), work schedule (1), deployment (1), and unknown reasons/unable to contact to reschedule (16). Treatment A and Treatment B lasted one hour. Participants were assessed after each session using a variety of scales to examine changes as a result of the therapy session based on their limitations. All sessions were cancelled after injury to the principal investigator on 4-1-16.

The results of the study, in some of the single subject studies, showed a greater response to hippotherapy combined with traditional therapy than to traditional therapy alone. While statistical significance was not found in all cases with all areas assessed, data plotting did reveal a change with hippotherapy combined with traditional therapy as opposed to traditional therapy alone.

In the case that a veteran with neurological deficits participated, improvements in functional ADLs were noted with greater improvements while participating in hippotherapy. The measures chosen for motor performance were components of the Functional Independence Measure Test (FIM), tests used included bed mobility, transitional movements, transfers, and gait. Improvements were less evident in the treatment with traditional therapy. In some cases FIM scores decreased after removing hippotherapy from the treatment. Figure 1 gives an illustration of an increase in FIM scores after the addition of hippotherapy to traditional therapy (Treatment B) after only participating in traditional therapy initially (Treatment A).

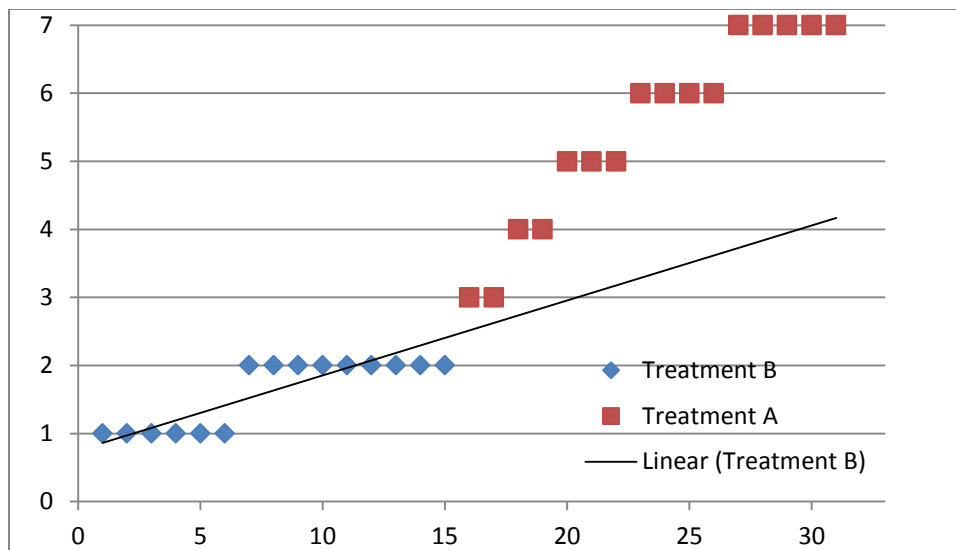


Figure 1: FIM Scores with Ambulation Veteran with a Traumatic Brain Injury

Figure 2 shows similar results in changes in FIM scores in the area of toilet transfers. Treatment A is only traditional therapy while Treatment B includes the addition of hippotherapy.

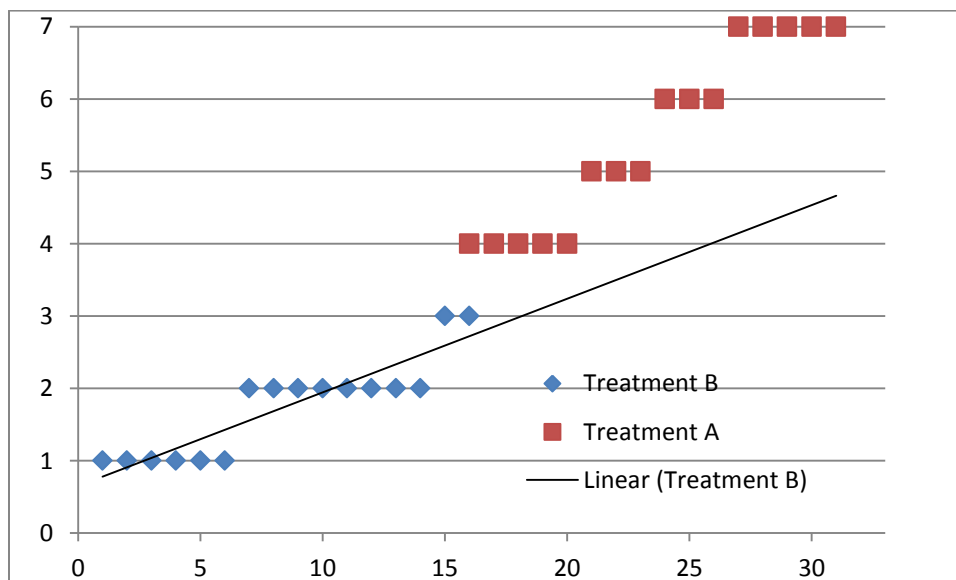


Figure 2: FIM Scores with Toilet Transfers Veteran with a Traumatic Brain Injury

In the two figures above using an exact binomial calculator, statistical difference is noted at the .05 level. When the celebration line is extended from the initial treatment, all the data points in the second treatment are above the predicted line, showing statistical significance in these two figures.

In the cases where orthopedic issues were addressed, improvements in range of motion and reductions in pain were noted with greater changes documented while participating in hippotherapy. The measures chosen for motor performance were changes in range of motion and self-reported measures of disability and function that were obtained with scales that included the Sheehan Disability Scale (SDS), Upper Extremity Functional Index (UEFI), Lower Extremity Functional Index (LEFI), Oswestry Low Back Pain Questionnaire (OLBPQ), and the Neck Disability Index (NDI).

In the case of a veteran with low back pain, scores on the Oswestry Pain Scale decreased in the initial sessions that included hippotherapy (Treatment A), however scores plateaued and slightly increased at times after hippotherapy was no longer offered in the study (Treatment B). Figure 3 demonstrates this trend.

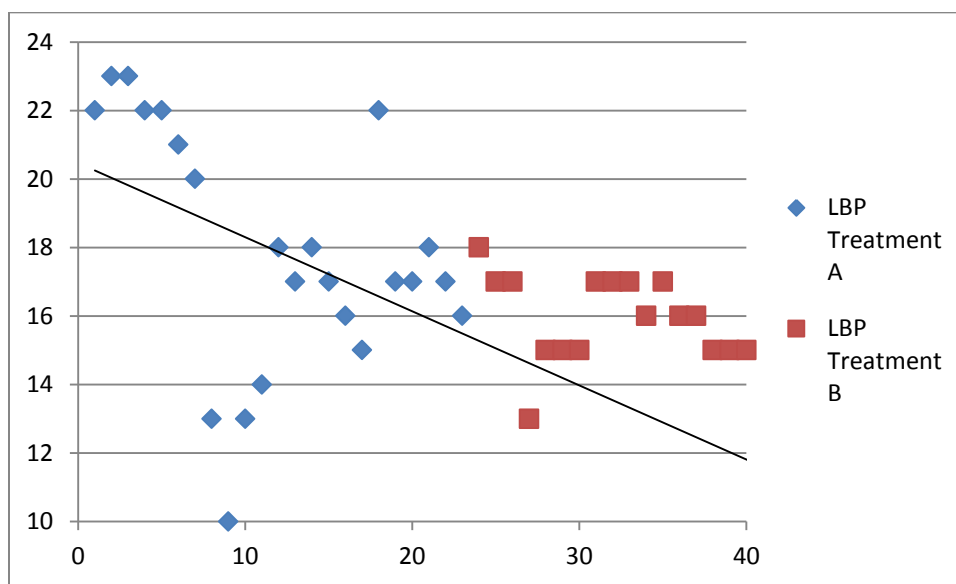


Figure 3: Oswestry Scores in Veteran with Low Back Pain

In another study looking at a veteran with low back pain, a similar result was seen. Treatment A includes hippotherapy while in Treatment B, only traditional physical therapy was used. This can be seen in Figure 4.

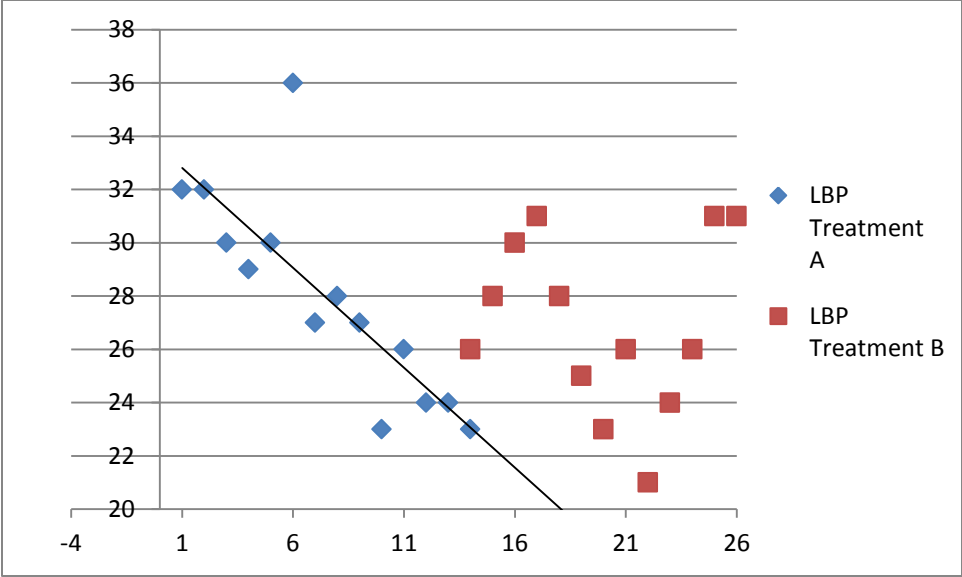


Figure 4: Oswestry Scores in Veteran with Low Back Pain

In another case study that looked at a veteran with decrease function, the Sheehan Disability Scale was used. In this case it was seen that while a decrease in scores were noted with the inclusion of hippotherapy (Treatment A), scores then increased after hippotherapy was removed (Treatment B). This change can be seen in figure 5.

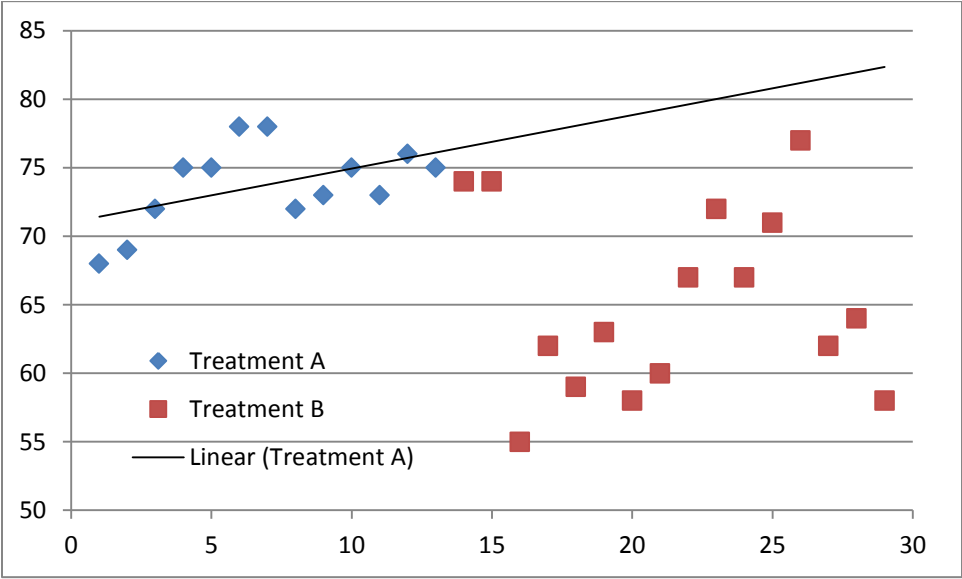


Figure 5: Sheehan Disability Scale

In an additional case that involved a veteran with shoulder issues, increased active range of motion was noted when hippotherapy was incorporated as opposed to traditional physical

therapy only. Table 1 gives an illustration to the improvement in range of motion after the inclusion of hippotherapy.

Action	L AROM PRE	L AROM POST	R AROM PRE	R AROM POST
Flexion	148	176	142	178
Abduction	142	174	140	175
Extension	20	20	20	31
External Rotation	28	67	40	80
Internal Rotation	25	90	44	70

Table 1: AROM in Veteran with Shoulder Issues

Also in this veteran, a decrease in functional limitations was noted after the inclusion of hippotherapy to the traditional physical therapy program. Table 2 illustrates this.

Outcome tool	Section	PRE	POST
Sheehan Disability Scale	Work/ School	4	0
	Social life	5	0
	Family life	4	0
	Days Lost	3	0
	Days Unproductive	3	0

Outcome tool	PRE	POST
Upper Extremity Functional Index	53	80

Table 2: Sheehan/UEFS in Veteran with Shoulder Issues

In some cases, the patients became disappointed when the horse was withdrawn and required strong encouragement to complete the data in the second phase of the program. After completion of the traditional treatment, the subjects were often eager to return to hippotherapy treatment. Thus, while hippotherapy produced effects that could be sustained over time, in these cases the decreased motivation and eagerness of participation and other external factors may have played a role in increasing disability levels during the traditional therapy portion of the study. Subjects 'enthusiasm for horse-based therapy suggests that they would have responded

well to hippotherapy alone, but also demonstrated more willing participation in traditional therapy when combined with hippotherapy.

Subjects often after completing the study pursued additional interaction with equine based therapy. Several subjects enrolled in equine science courses at the university. Subjects also returned to the hippotherapy sessions to volunteer as assistance in hippotherapy sessions for other subjects. It is interesting to note that a majority of the veterans had limited exposure to horses before participating in the study.

Impact of the Beck P.R.I.D.E. Center on the Health, Well-Being, and Quality of Life for Veterans

As part of the Beck PRIDE Center's *An Effective Solution for Combat Injured Student Veterans* project, a multi-faceted data collection plan was implemented to assess the impact of Beck PRIDE services on the health and well-being of the veterans it served, as well as their quality of life. As part of the data collection, project-end surveys were conducted to assess the perceived effectiveness of the program from the perspective of both the veterans it served and the various community members involved in the work of the center. A listing of data collection instruments, a brief description, and their administration timeframes is provided in the table below. More details about each instrument and the data obtained will be provided throughout this report.

Data Collection Instruments

Instrument	Description	When Administered
Beck P.R.I.D.E. Intake Form	The Beck PRIDE Intake form collects information on a wide range of participant demographics and needs as they enter the program.	Upon Entry only
SF-12 Health Survey	The SF-12 measures participant functional health and well-being.	Upon Entry and at Follow-Up
Beck Pride Satisfaction Inventory (BPSI)	The BPSI measures the general satisfaction and quality of life of veterans.	Upon Entry and at Follow-Up
Quality of Life Index (QLI)	The QLI assesses quality of life by measuring the general satisfaction with, and perceived value of, different areas of life.	Upon Entry only
Project End Participant Survey	The Project End Participant Survey assesses participant satisfaction with, and perceived effectiveness, of the Beck P.R.I.D.E. Center.	End of the Project
Project End Community Agency Survey	The Project End Community Agency Survey assesses satisfaction with, and perceived effectiveness, of the Beck P.R.I.D.E. Center.	End of the Project

This report is organized around 3 main questions: (1) Who were the participants? (2) Why did they come to Beck P.R.I.D.E.? and (3) Did Beck P.R.I.D.E. make a difference in the lives of the

veterans it served? Each section will include relevant data from across the life of the grant period.

WHO WERE THE PARTICIPANTS?

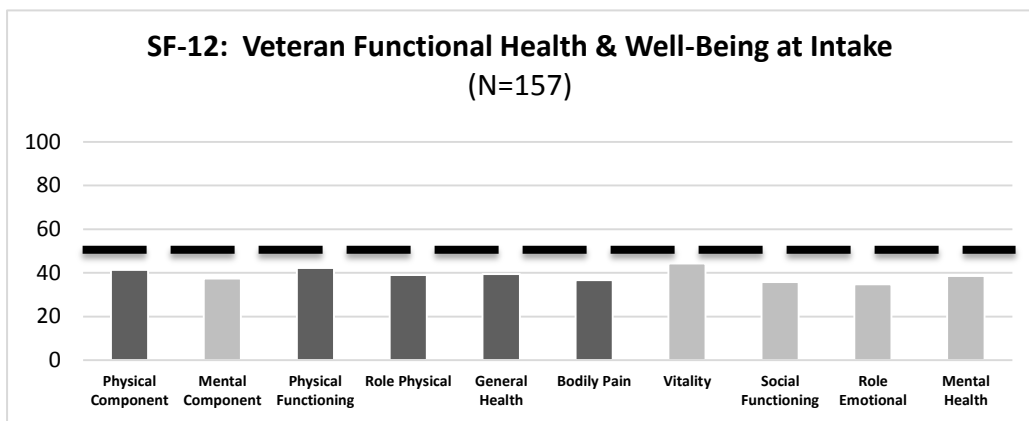
Demographics. Across the life of the project, 157 veterans took part in Beck P.R.I.D.E. services, far exceeding the original goal of 100 veterans. In order to receive services from the Beck P.R.I.D.E. Center, veterans must have been in a present day conflict (from the Persian Gulf War to present day). Most participants had been deployed either 1 (55%) or 2 (33%) times, with the remaining veterans having been deployed 3 or more times. The most common locations for deployment were Iraq (67% of veterans) and Afghanistan (68% of veterans). Other locations included the Persian Gulf, Africa, and Kosovo. When entering the program, 9% were on active duty.

The majority of participants were male (93%) and Caucasian (74%). Participant ages ranged from 23 to 70 years old, with a mean age of 36 years. Reports of marital status showed that around one-half were married (49%), about one-quarter were single (24%), and 17% were divorced. Fifty-six percent of participants had been married once, 29% reported never being married, and 12% had been married twice. The majority of participants (59%) had at least 1 dependent and 30% were enrolled in college.

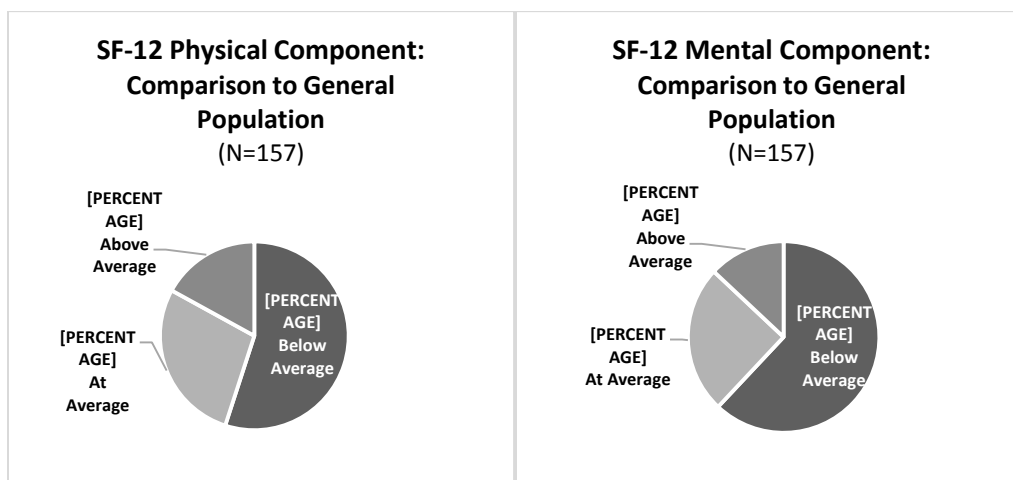
Existing Issues/Problems. Beck PRIDE participants reported a number of medical or physical issues when they entered the program. The majority of those issues appeared to be a result of their combat-related experiences and exposure to a war-zone environment. Of the participants who responded to the impairment items on the intake form, 79% reported suffering from mobility impairments (e.g., back, knee, or shoulder pain), 76% reported suffering from sleep problems (e.g. sleep apnea or insomnia), and 72% reported hearing impairments (i.e., hearing loss or tinnitus). Other major issues affecting returning veterans were Post-Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI); about two-thirds of participants reported having PTSD (64%) and about one-third reported having TBI (28%). Fifty-four percent were receiving VA Compensation at the time of entry into Beck P.R.I.D.E., with an average disability rating of 52%.

To assess whether any additional problems existed with participants (e.g., with functional health, well-being, satisfaction with life, and quality of life), 3 data collection instruments were administered at intake: (1) the SF-12 Health Survey, (2) the Quality of Life Index, and (3) the Beck PRIDE Satisfaction Inventory. Results from each instrument are provided below.

Functional Health & Well-Being (as measured by the SF-12, a short form Health Survey). All 157 Beck PRIDE Center participants completed an SF-12 when they first enrolled in the study. The SF-12 is a self-report measure of an individual's perceived health. The possible score range for the SF-12 is 0 (poor health) to 100 (excellent health), with 50 being considered the population mean (with a Standard Deviation of 10). The table below provides a breakdown of physical-, mental-, and overall health of the participants at intake based on the SF-12 domains.



As shown in the table above, and in the figures below, when entering the Beck P.R.I.D.E. project, the majority of participants fared much worse than the general population both physically and mentally. For example, only about one-fourth of participants fell into the “average” range in both the physical- and mental-domains of the SF-12, and over one-half of participants fell in the “below average” range.



Quality of Life (as measured by the Quality of Life Index). Each veteran who participated in the Beck PRIDE study was administered the Quality of Life Index (QLI) Generic III Version during the initial intake interview. The QLI is a 66-item inventory split into two parts: Part 1 contains 33 questions relating to general satisfaction (e.g., How satisfied are you with your health in general?), and part 2 contains 33 questions relating to values (e.g., How important to you is your health?). QLI items are rated on a six point Likert scale, with 1 being “very dissatisfied” or “very unimportant” and 6 being “very satisfied” or “very important.” Five scores are calculated for the QLI: (1) Overall Quality of Life score, (2) Health and Functioning subscale score, (3) Social and Economic subscale score, (4) Psychological/Spiritual subscale score, and (5) Family subscale score. The following table shows the mean quality of life scores for veterans participating in the study on whom we have complete data (N=151). The range of scores is from 0 to 30 (with higher numbers reflecting higher quality of life).

Quality of Life Index Subscale & Overall Scores at Intake (N=151)					
	Number of Respondents	Minimum	Maximum	Mean Score*	Standard Deviation
<i>Health & Functioning Subscale</i>	151	1.9	30	16.37	6.53
<i>Social & Economic Subscale</i>	151	3.0	30	17.60	6.24
<i>Psychological/Spiritual Subscale</i>	150	0.0	30	17.91	6.68
<i>Family Subscale</i>	150	3.6	30	21.18	6.31
Overall Quality of Life Index Score	151	2.73	30	17.66	5.86

*Mean scores range from 0 to 30

The results from the QLI indicate that veterans came into Beck P.R.I.D.E. with a less than ideal view of their Quality of Life (mean of 17.66 on a scale from 0 to 30), especially when it comes to Health and Functioning concerns, Social & Economic concerns, and Psychological/Spiritual concerns. This is not surprising, however, due to the fact that so many reported having problems during their intake (e.g., mobility problems, hearing problems, PTSD).

Satisfaction with Life (as measured by the Beck P.R.I.D.E. Satisfaction Inventory). As veterans entered the Beck PRIDE study, they were administered the Beck PRIDE Satisfaction Inventory (BPSI). There are 2 sections of the BPSI: (1) Section 1 of the BPSI assesses the general satisfaction participants have in eight different domains of life and (2) Section 2 measures veteran satisfaction with the services provided by the Beck PRIDE Center (section 2 was administered at follow-up and will be discussed later in this report). Complete BPSI data are available for 156 participating veterans. Overall, it appears that when participants came to Beck P.R.I.D.E., they were only a little satisfied with a most areas in their life, especially their Work Life. This may be due to the fact that they are experiencing so many issues, as discussed above. The table below shows the mean satisfaction scores for each domain on a scale from 1 (no satisfaction at all) to 4 (a great deal of satisfaction).

Beck PRIDE Satisfaction Inventory Mean Scores at Intake - N=156	
LIFE DOMAIN	MEAN SCORE*
Education	2.55
Career Prospects	2.53
Social Life	2.48
Family Life	2.90
Health	2.55
Physical Activity	2.37
Recreational Activities	2.53
Work Life	2.12
*Range = 1 to 4 1 = No Satisfaction, 2 = A Little Satisfaction, 3 = Quite a Bit of Satisfaction, and 4 = A Great Deal of Satisfaction	

WHY DID VETERANS COME TO BECK P.R.I.D.E.?

When first coming to Beck P.R.I.D.E., participants were asked what kind of assistance they were seeking. Many of the veterans came in seeking assistance for their education needs (e.g., educational advising), but also for career assistance and assistance with vocational rehabilitation. A listing of the various types of assistance veterans sought out is presented in the table below, along with the percentage of individuals requesting that assistance.

Type of Assistance Sought	Percentage of Respondents
Education Advising Assistance	51%
GI Bill Education Benefits Assistance	38%
Scholarship/Other Financial Aid Assistance	36%
Vocational Rehab Assistance	36%
Career Advising Assistance	33%
Testing/Placement/Assessment Assistance	20%
Tutoring/Mentoring/Study Skills Assistance	18%
Cultural/Social Enrichment Assistance	16%
Employment Services Assistance	12%

Most veterans appeared to be without existing social supports to help them when they came to Beck P.R.I.D.E. Although just over one-half of participants (55%) had been accessing services through a nearby VA facility (in Memphis, TN), very few appeared to belong to any community support organization (e.g., only 20% said they belonged to a community veteran organization, 13% said they belonged to the VFW Organization). Anecdotally, participants reported that they did not know how to receive benefits and services (e.g., they did not understand the paperwork or who to contact). As a result, Beck P.R.I.D.E. reached out to the 3 VA systems in the surrounding area to coordinate services and workshops for veterans. In addition, many veterans appeared to be lacking support from their family and friends (e.g., 50% said their spouse/lover was their support system, 38% said their parent[s] were their support system).

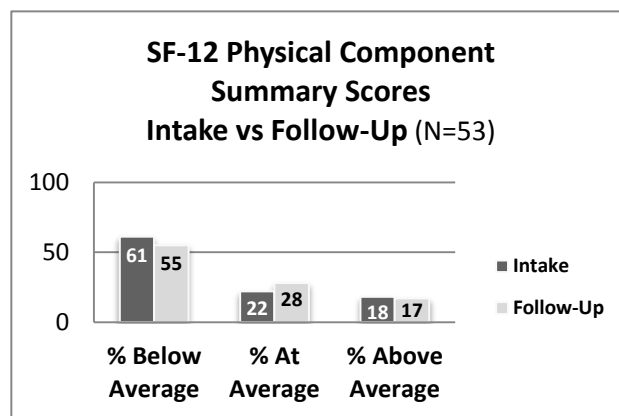
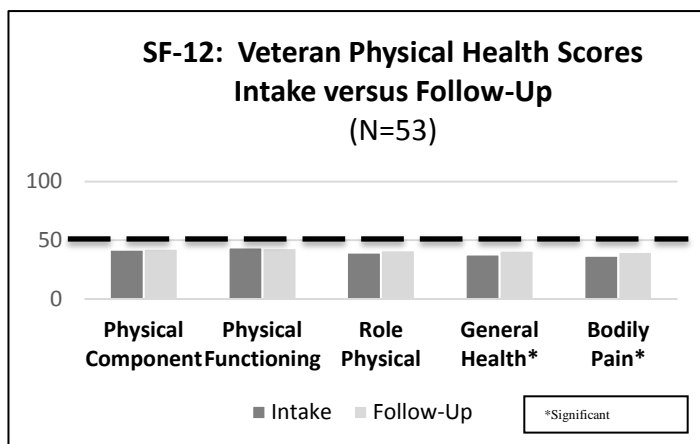
DOES BECK P.R.I.D.E. MAKE A DIFFERENCE FOR VETERANS?

One of the key aims of this project was to determine the extent to which Beck P.R.I.D.E. is effective for veterans. To assess that effectiveness, both intake and follow-up (about 6 months after they entered the project) interviews were conducted with participants to allow for a pre-post comparison of key indicators (e.g., functional health, quality of life). The interviews included the SF-12 (assessing functional health and well-being) and the BPSI (assessing satisfaction with, and quality of, life). Follow-up interviews were conducted with 53 participants. Overall, participants appeared to make some significant improvements after having received Beck P.R.I.D.E. services, especially in their mental health. Below is a more detailed summary of the findings.

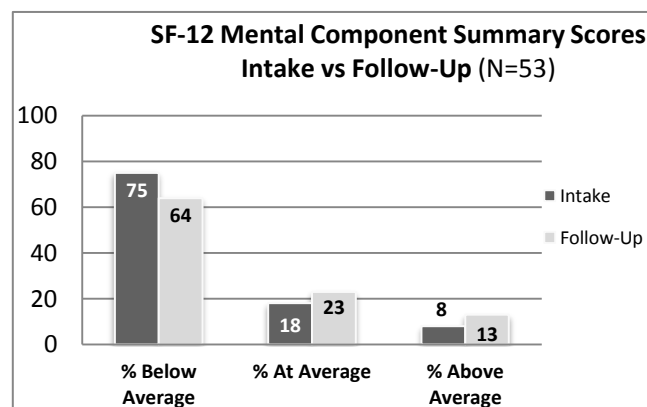
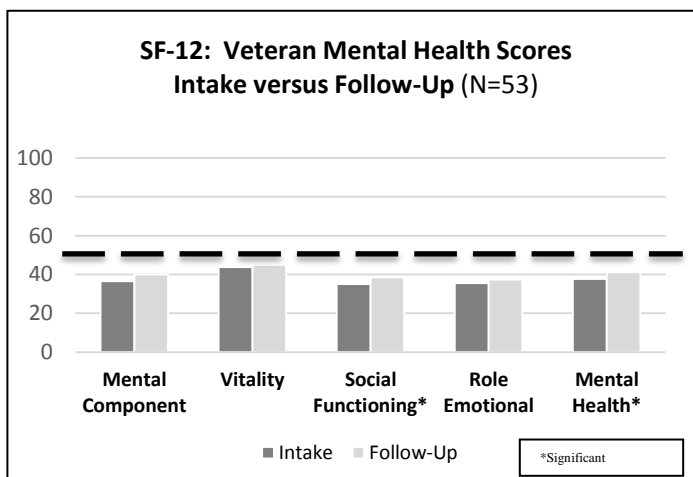
Functional Health & Well-Being (as measured by the SF-12). As reported earlier, upon entering the Beck PRIDE Center project, veteran self-reports indicated that very few of them

fared better than the general population in both physical health and mental health. However, after having received services from Beck P.R.I.D.E., those reports improved quite a bit, some even significantly.

The figures below show that after having participated in the Beck PRIDE project, many participants were doing better **PHYSICALLY**. In fact, in the areas of General Health and Bodily Pain (higher scores indicate more freedom from pain), the changes were significant ($t > 1.7$, $p < .05$). In addition, many more participants reported being “At” the general population average in the Physical Health component at follow-up than at intake. This indicates a great improvements in Beck P.R.I.D.E. participants after having received services.



Similar to physical health (above), it appeared that only a few Beck PRIDE participants fared better in self-reported **MENTAL HEALTH** than the general population upon entering the program. At follow-up, however, participant mental health appeared to have improved significantly based on the SF-12; the Mental Health Component Score increased from 36.62 to 39.98 ($t=2.22$, $p<.04$). A couple of SF-12 mental health sub scores increased as well ($t > 2.1$, $p < .05$): Social Functioning and Mental Health. In addition, the percentage of veterans who fell “below average” in the mental health domains of the SF-12 when compared to the general population decreased from 75% to 64%, while the percentage of those falling “At” and “Above” average increased (18% to 23% and 8% to 13%, respectively). The figures below depict the positive changes that occurred in veterans’ mental health after receiving services from Beck P.R.I.D.E.



Satisfaction with, and Quality of, Life (as measured by the Beck P.R.I.D.E. Satisfaction Inventory). The table below shows the mean life domain satisfaction scores from the Beck P.R.I.D.E. Satisfaction Inventory intake interview (pre) and the follow-up interviews. Although no statistically significant differences in any of the domains from Intake to Follow-up were found (t s ranged from .00 to 1.64, all $ps > .05$), there was movement toward improved satisfaction with life for those on whom we have follow-up data. For example, at intake, the least satisfaction appeared to occur in the Work Life and Social Life domains, but after having been part of the Beck P.R.I.D.E. project, there appeared to be a trend toward higher satisfaction with both of those areas. The most satisfaction appeared to occur in the Family and Education domains of veterans' lives (consistent with responses from intake).

BPSI Intake & Follow-Up Scores (N=52*)			
LIFE DOMAIN	PRE MEAN SCORE	FOLLOW-UP MEAN SCORE	DIFFERENCE IN MEANS
Education	2.58	2.67	.09
Career Prospects	2.50	2.50	0
Social Life	2.25	2.50	.25
Family Life	2.83	2.89	.06
Health	2.48	2.42	-.06
Physical Activity	2.42	2.35	-.07
Recreational Activities	2.39	2.40	.01
Work Life	1.92	2.10	.18
*Complete intake and follow-up data are available for only 52 participants			

Another factor that impacts participant quality of life is their VA Compensation Rating. There were 23 veterans on whom we had both intake and follow-up VA Ratings. Although there was not a significant change, there was movement toward an increased rating (67% to 69%), which translates into increased benefits for veterans.

Satisfaction with Beck P.R.I.D.E. (as measured by the Beck P.R.I.D.E. Satisfaction Inventory and the Project End Surveys). Throughout the project, the Beck PRIDE Center offered eight types of services to veterans: Educational Assistance, Mental Health Counseling, Social Services, Community Referrals, Mentoring, Socialization, Career Planning, and Rehabilitative Services. During follow-up, Section 2 (Satisfaction with Services) of the Beck P.R.I.D.E. Satisfaction Inventory (BPSI) was administered. Overall, veterans were generally satisfied with Beck PRIDE Services, with the exception of a small percentage who found the Social Services and Community Referral services at Beck PRIDE being “poor” at follow-up. However, over one-half of veterans report all services are working “great.” The Rehabilitative and Education Assistance services had the highest ratings at follow-up with 82% and 81%, respectively. Social services had the lowest overall “great” rating (68%), which suggests that this domain may be in need of the most improvement. That being said, over two-thirds of participants rated Social Services as “great,” indicating that it was working well for most. The table below shows the results for the 53 veterans who completed the follow-up interview.

Satisfaction With Beck PRIDE Services at 6-Month Follow-up (N=53)*			
(Note: Percentages are of those participants not selecting "N/A")			
<i>How well are the following services working for you?</i>	Poorly %	Adequately %	Great %
Education Assistance Service	0	19	81
Mental Health Counseling	0	25	75
Social Services	5	27	68
Community Referral Service	7	22	70
Mentoring Service	0	24	76
Socialization Service	0	30	70
Career Planning Service	0	28	72
Rehabilitative Service	0	19	82
*Due to rounding, percentages may not equal 100%.			

In an effort to get feedback from the participants about what they thought about Beck P.R.I.D.E., a *Project End Participant Survey* was sent out in May, 2016, to those who had participated in Beck P.R.I.D.E. services. In all, 20 veterans completed a survey. Of those, the majority agreed that Beck PRIDE was a helpful resource that (a) meets the needs of veterans, (b) helps veterans gain skills they need to be successful, and (c) is something they would recommend to others. When asked to what extent Beck P.R.I.D.E. services were helpful to them, the responses were very positive. Although only some respondents received any given service, 100% of those who reported receiving Education Assistance, Mental Health Counseling, Social Services & Community Referrals, Career & Business Planning, and Personal Rehabilitation Services said those services were “very helpful.” When asked about the ways in which Beck P.R.I.D.E. has helped them the most, one person said, “Attending the combat support group has been helpful, even though I was reluctant to address those issues...” Another veteran said it was helpful in that they had “...someone to talk to when no one else understands.” Others said that Beck P.R.I.D.E. helped them with educational issues: “...Getting back into college was an overwhelming task for me. Not only did they help me with all of the paperwork, but they also seen me through my program...” Another person said, “I don’t know how I would have managed to feel comfortable going back to school after so many years of being out of school without the help of the Beck Pride staff.”

A Project End Survey was also sent out to various community members who have worked with Beck P.R.I.D.E. to get a broader sense of the perceived effectiveness of the project. Twelve individuals from the community who work with Beck P.R.I.D.E. responded to the survey, all of whom had worked with the program for at least 2 years. Community partner responses echoed those from the participants: Beck P.R.I.D.E. is helpful, meets veterans’ needs, and is a resource they would recommend to any veteran needing assistance. Respondents said that the program serves as a “strong advocate for veterans’ needs and resources.” In addition, it is clear that its community partners think that Beck P.R.I.D.E. is an invaluable service that deserves more recognition. One respondent said, “It is Jonesboro, AR (*sic*) best kept secret that others should know about.” Another said, “I am honored to be a volunteer that is involved in the Beck Pride Center. The whole United States should know about this center.”

SUMMARY AND CONCLUSIONS

As reflected in this report, when veterans come to the Beck PRIDE Center, they are likely to have a host of physical or mental health issues, they are not totally satisfied with their lives, and they are in need of various types of assistance. They also tend to come in without a strong support system in place. Based on the results gained from the data collection throughout the project, it appears that ***the Beck PRIDE Center has been a valuable mechanism to assist those veterans by providing them with numerous types of assistance they need*** (e.g., education, career), and in turn it helps to improve critical aspects of their lives, both physically and mentally. This project also allowed Beck P.R.I.D.E. to learn some important lessons and provided some direction for future efforts. For example, the issues of moral injury and spirituality came to light during this project (what veterans had to do while deployed is sometimes incongruent with their spiritual beliefs), and needs to be an area of attention in the future. In addition, Beck P.R.I.D.E. is in a great position to impact rural veterans in the area. In order to get to one of the 3 major VA Systems in the surrounding area, veterans have well over one hour of travel time. Beck P.R.I.D.E.'s coordination and promotion of VA services has been a positive step in helping those from rural areas, but systematic data have not been collected on those elements of assistance. The general consensus about the Beck P.R.I.D.E. Center can be summed up by one participant's comment..."I feel the Beck P.R.I.D.E. is an outstanding organization...One of the best [veteran] programs that is out there."

Part of the reason that Beck PRIDE has been successful is because it has adapted its services in response to veteran needs. For example, as part of the expansion of assistance provided by the Beck PRIDE Center in response to specific needs and concerns, a number of services were initiated to broaden its activities. The following illustrates those projects completed by the Beck PRIDE Center for veterans:

- Beck PRIDE Center staff are involved in a veteran's court initiative in partnership with the 2nd Judicial District, Memphis VA system, and MidSouth Health systems. The veteran mentors have been recruited from the Beck PRIDE Center program.
- A community education series has been developed and presented to 410 mental health professionals and clergy. The 5 Topics included Addictive Thinking, Improving Treatment Outcomes with Substance Abuse, Understanding Moral Injury, Suicide Awareness, and Understanding TBI and PTSD.
- A VA vocational-rehabilitation counselor is located at A-State after negotiations by Beck PRIDE Center staff.
- Completing applications for VA services, such as eBenefits, and for medical benefits, was part of the service provided. All interns and VA work study students have been trained in this process and the process for enhanced enrollment.
- Two eBenefits workshops were conducted for veterans and staffed by VA personnel.
- A research project with the A-State Physical Therapy Department utilizing Yoga to address chronic pain and PTSD symptoms was developed and is being currently offered for the 2nd time.

- Individual Counseling for veterans and family members has been provided for those with no payor source or their copays have been covered.
- Funds for medication for veterans outside the VA system has been provided as needed.
- Gas money has been provided for veterans as needed, including trips to the VA for medical appointments when they are not eligible for travel pay due to the distance.
- A veteran's claim workshop at BPC has been offered at the Beck PRIDE Center three times this past year with support from the Arkansas Department of Veteran's Services.
- An additional two claims assistance programs were offered at the Beck PRIDE Center with support of the Disabled American Veterans Association.
- VA work study students (generally 4 per semester) have been through orientation and given assignments. This provides financial support to the veteran along with job training.
- A VA Caregivers support group has been offered for two semesters.
- Interns from bachelors and masters level programs in social work, occupational therapy, physical therapy, and counseling work with veterans each semester. Preference is given to veterans to fill these positions.
- Community Service groups in coordination with the Beck PRIDE Center have supported social programs for veterans and their families for each holiday and at the start of school.
- The Beck PRIDE Center served on the founding committee of the VA/Clergy Partnership of Rural Veterans to coordinate services.
- Support is offered to The Order of the Purple Heart Association and meetings are held at the Beck PRIDE Center.
- The Disabled American Veterans Association is supported by the Beck PRIDE Center and their monthly meetings are held at the office.
- Free tax services were offered to veterans for 2015 and will be repeated in 2016.
- Financial workshops on budgeting and understanding student loans has been offered twice and will be repeated in the fall, 2016.
- Anger management classes were offered to veterans.
- The Arkansas Student Veterans Association (ASVO) is supported by the Beck PRIDE Center staff.
- Financial support is given to veterans to attend leadership courses and small business classes.
- Financial support was given to a veteran to allow him to compete in state and national university business competitions. He placed first in the nation.
- Two Dental clinics for veterans with no access to VA dental care have been coordinated with a dental clinic. One veteran received \$16,000.00 in dental care.
- Hosted Town Hall meeting for veterans with the Memphis and Little Rock VA Health Systems.
- Provided physical therapy assessments and speech testing for veterans and family members.
- Provided equine assisted psychotherapy (individual and family sessions) for veterans.

Implementation Manual

As there was more focus on Veterans in academic institutions, our research group felt it was important to provide information on how our Center was developed. It was a piece that we wanted to share with other institutions nationwide as they considered Veterans programs and support on their campuses. Our goal was to develop a draft manual in year one of the project, send it out for review and modification in year 2 and disseminate the manual in year 3.

Some preliminary meetings were held in February through April, 2012 with staff and media personnel to discuss the project, conceptualize it and move it to a draft outline. A more formalized meeting was held on May 4, 2012 with Dr. JoAnn Kirchner, consultant and media personnel to discuss the design of the implementation manual. The research group spent time outlining the chronology of the Beck PRIDE Center's development and operationalization with a discussion of what specific materials were necessary to collect for the manual. They met again on July 9th, 2012 where the manual contents were decided upon. Group members were assigned tasks for the compilation of the content. Another meeting occurred on August 10, 2012 to refine that content. A timeline was established for continued draft development followed by external review, final compilation and manual dissemination.

An early draft of the manual was reviewed on October 12, 2012 by members of the Beck PRIDE Center National Advisory Council. They were asked to review design and content. They noted that it might be preferred to put diagnostic tools and other forms/materials in an electronic file versus trying to provide appendices to the printed booklet. Based on that feedback, a second draft of the implementation manual was sent out April 1, 2013 to that same group plus other individuals who were familiar with and/or affiliated with the program. Suggestions were taken into account and incorporated into a third and final draft.

In 2014, the manual was submitted for cost analysis and printing. Production occurred and manuals were disseminated to hundreds of higher education institutions, policy makers, veterans groups, visitors, and other interested parties. The manual won the Gold Award in its category in the annual competition sponsored by the Council for Advancement and Support of Education, District IV. The manual is still being utilized today although the working timeline is now a little out of date. The higher education cover letter, manual and resource sheet are attached.

KEY RESEARCH ACCOMPLISHMENTS

- Non-military installations/institutions have the ability to successfully implement veterans reintegration programs with impactful personal outcomes.
- Additional data to support the effects of hippotherapy on motor performance in veterans with disabilities.

REPORTABLE OUTCOMES

Publications:

1. Aldridge, R. L., Jr., Morgan, A., & Lewis, A. (2016, July). The Effects of Hippotherapy on Motor Performance in Veterans with Disabilities: A Case Report. *Journal of Military and Veterans' Health*, 24(3), 24-27. Retrieved from jmvh.org/issue/volume-24-no-3/.

Presentations:

1. Aldridge, R. L. Jr., Lewis, A., Mathews, M., Easton, C., McKinney, N. (2017, February) *The Effect of Hippotherapy on Shoulder Function and Related Disability for a Military Veteran*. Lecture to be presented at Combined Sections Meeting, American Physical Therapy Association, San Antonio, Texas
2. Aldridge, R. L., Jr. (2015, June 22). *The Effects of Hippotherapy on a United States Veteran with a Traumatic Brain Injury*. Lecture presented at Horses and People Meet in Taiwan, Taiwan, Taipei.
3. Aldridge, R. L., Jr. (2014, August 7-8). *The Effects of Hippotherapy on a United States Veteran after a Stroke*. Lecture presented at Regional Meeting of the Professional Association of Therapeutic Horsemanship International, Murfreesboro, Tennessee.
4. Aldridge, R. L., Jr. (2013, March 8-10). *The Effects of Hippotherapy on Motor Performance and Function in United States Military Veterans with Orthopedic Issues*. Lecture presented at AHA International Conference 2013, St Louis, Missouri.
5. Aldridge, R. L., Jr. (2012, October 24-26). *The Effects of Hippotherapy on Motor Performance and Function in United States Military Veterans with Low Back Pain*. Lecture presented at ASHP Annual Conference, Orlando, Florida.

CONCLUSION

The Beck PRIDE Center has been a valuable mechanism to assist those veterans by providing them with numerous types of assistance they need. The diversity of assistance provided and the development of additional needs based offerings has moved the veterans forward toward their goal of reintegration.

Using hippotherapy as an intervention modality has improved functional outcomes for veterans. The ability to apply this method to a variety of physical and mental health issues offers versatility in patient care versus using more traditional therapies.

REFERENCES

Publication/Presentations noted on page 22.

APPENDICES

Original Articles

Original Articles

The Effects of Hippotherapy on Motor Performance in Veterans with Disabilities: A Case Report

R L Aldridge Jr,¹ A. Morgan,² A. Lewis¹

Abstract

The purpose of this case report was to compare traditional physical therapy to hippotherapy combined with traditional physical therapy on the motor performance of a 34-year-old male military veteran with low back and neck pain. Hippotherapy, as a treatment strategy, uses the movement of a horse to improve the subject's neuromuscular function and sensory processing through the motion of the horse in its variety of gait. Outcome measurements for this subject included the Sheehan Disability Scale, Oswestry Low Back Pain Questionnaire, and the Neck Disability Index. The combination of hippotherapy and traditional physical therapy resulted in greater improvements in disability scores on all three outcome measures compared to traditional physical therapy alone.

Key words: hippotherapy, veteran, low back pain, physical therapy, equine

Background

American Hippotherapy Association¹ (AHA) defines hippotherapy as a physical, occupational, and speech-language therapy treatment strategy that uses equine movement as part of an integrated intervention program to achieve functional outcomes. Using a horse in therapy was beneficial for many reasons.^{2,3,4,5} The horse's pelvis demonstrated a three-dimensional movement pattern similar to a human's pelvis while walking,^{3,4,5} which provides rhythmic and repetitive physical and sensory input to the client.^{2,3,4,6} The variability of the horse's steps allows the therapist to evaluate the degree of input to the subject, and then use this movement in combination with other treatment strategies to reach desired therapy goals.⁵ The horses' gait established a foundation for improving neurological function and sensory processing, which can be instrumental to a wide range of daily activities in addition to addressing functional outcomes and therapy goals.^{4,7} According to Meredith S. Bazaar,¹ a licensed speech-language pathologist, board certified hippotherapy clinical specialist, sensory integration via hippotherapy, simultaneously addresses the vestibular, proprioceptive, tactile, visual, olfactory, and auditory systems. Therefore, movement of the horse helps accomplish speech, language, swallowing, cognitive, physical, and occupational goals that were established in therapy.

W81XWH-11-1-0793

Rationale

Hippotherapy is useful in physical therapy. Horse

based therapy facilitates balance and posture control, increased strengthening and assists in an improved range of motion.⁸

Current research demonstrates that hippotherapy is beneficial for those with developmental, skeletal, psychological, or neuromuscular conditions.⁹ Examples of such disabilities include cerebral palsy, arthritis, amputation, scoliosis, Down syndrome, traumatic brain injury, and spina bifida. Most commonly the patients were children, with lower extremity spasticity due to neuromuscular disorders receiving hippotherapy (e.g., cerebral palsy, spinal cord injury).¹⁰ Hippotherapy remained an experimental treatment for all diagnoses due to the limited quantity of published literature supporting its efficacy in individuals with disabilities.

Research Design

The researchers obtained approval for the hippotherapy study from the Arkansas State University Institutional Review Board. Participants are referred to the program either through self-referral, physician referral or through the Beck Pride Center. As not all participants present with comparable impairments, a single subject design permits reporting of outlying cases in the literature. Therefore, a single subject design examined the interactive effect of two or more treatments (control and treatment).¹¹ In this study, the effectiveness of hippotherapy in conjunction with traditional physical therapy, the experimental treatment, was compared with the control treatment of traditional physical

Original Articles

therapy in an individual patient. Several data points were collected after each treatment session to allow more accurate measurement of overall functional improvement. Sufficient data points permitted a publishable report based on the subject's unique disability.

The risks associated with this study included but were not limited to falls, muscle injuries, and fractures. Therefore, subjects included must be 18 years of age or older and have a physician determined need for physical therapy. Individuals with severe horse allergies, unstable fractures, atlanto-axial instability (excessive movement at the junction between the first two cervical vertebrae), or the inability to balance in a seated position could not participate in the study.

After a licensed physical therapist determined that the subject was eligible for participation and obtained informed consent, the subject was randomly assigned to Treatment A via a coin flip. In this first treatment group, he received both hippotherapy and traditional physical therapy, each for one hour once per week. After 15 weeks in Treatment A, the subject moved to Treatment B, receiving traditional physical therapy twice a week for one hour. The study lasted for 30 weeks, and the same physical therapist oversaw the duration of the patient's care in both groups. Three main outcome measures were collected after individual treatment sessions: the Sheehan Disability Scale (SDS; Sensitivity 0.83, Specificity 0.6912), the Oswestry Low Back Pain Questionnaire (OLBPQ; Sensitivity 0.76, Specificity 0.6313), and the Neck Disability Index (NDI; Sensitivity 0.74, Specificity 0.6614).

Case Presentation

W81XWH-11-1-0793

The subject was originally referred to the study through the Beck Pride Center. He was a male with a history of low back pain, neck pain, and a moderate stutter secondary to post-traumatic stress disorder (PTSD). He has lived with all of his impairments since he was discharged from the service.

Intervention during a one hour hippotherapy session involved retrieving the horse from the pasture or stall; tacking the horse (putting on appropriate equipment, i.e. saddle, etc.); brushing and grooming the horse; mounting the horse via the use of mounting ramps; riding the horse facing forward,

backwards, and sideways; performing strengthening and stretching exercises; changing directions and speeds while on the horse; dismounting the horse via the mounting ramps; untacking the horse and returning the horse to the pasture or stall. Every session was performed by a licensed physical

therapist, certified in hippotherapy as recognised by the AHA, along with a trained horse handler, and two trained side walkers. At the end of each session a licensed physical therapist evaluated the patient, and the patient completed a questionnaire evaluating improvement.

A traditional physical therapy session lasted approximately one hour and was the same during both experimental and control phases of the program. Intervention for the subject included stretching and strengthening exercises, manual therapy, educational training, and physical agents such as hot packs, cold packs, ultrasound, and electrical stimulation. At the end of each session, the subject was evaluated by a licensed physical therapist and then filled out a questionnaire evaluating improvement.

Measurements of motor performance were taken following each session. Evaluations included a range of motion, strength, balance, gait analysis, and posture. The results were analysed and compared to see if they are similar or different.

Tools used to measure changes as a result of treatment included a NeuroCom Balance Master, Gait Rite, Parotec Gait System, Lite Gait, Biodex, and functional scales. Other equipment utilised in treatments included an equine approved helmet, tack equipment- saddle, bridle, brushes, etc., gait belts, mounting ramps, Life System, and therapeutic exercise.

Examination Findings- Data and Analysis

The results of the three main outcome measures (SDS, OLBPO, & NDI) were graphed and visual analysis was used to evaluate the graphs of the single subject data. Visual analysis was selected because, with basic information, outcomes can be accurately predicted using this method.¹¹ Data trends for all three measures showed the subject's marked improvement with the addition of hippotherapy to his treatment program. The subject reported decreased low back and neck pain following hippotherapy sessions. In addition, as therapy progressed the subject's stutter, present at initial evaluation, became less frequent and eventually disappeared.

While all three measures showed numerical improvement, only the Sheehan Disability Scale reached statistical significance according to visual analysis (Figures 1 & 2). The Oswestry Low Back Pain Questionnaire and Neck Disability Index both demonstrated clinical significance by improving function more than the minimal clinically important difference (MCID, Oswestry=1515, NDI=9.514) and both scores decreased over 50%. The figures below represent the data collected from the Sheehan

Volume 24 Number 3; July 2016

Page 25

Original Articles

W81XWH-11-1-0793

Disability Scale in the experimental and control phases of treatment. The dates of treatment are located on the x-axis and the results of the day's measures are plotted on the y-axis. The rate of improvement is the slope. By looking at the slope, a trend, or direction of change, can be seen in the data.

Figure 1. Hippotherapy Plus Traditional Physical Therapy, measure of disability and impairment. Data measured using the Sheehan Disability Scale.

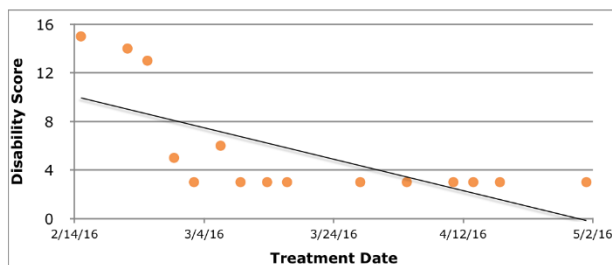
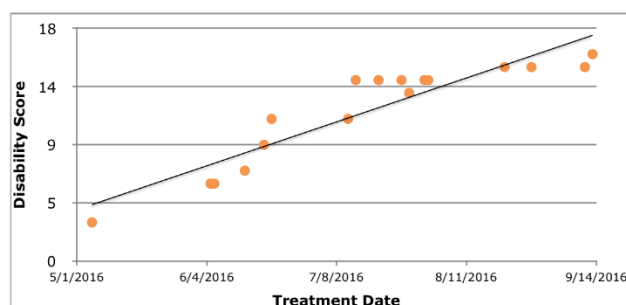


Figure 2. Traditional Physical Therapy only, measure of disability and impairment. Data measured using the Sheehan Disability Scale.



education. Examples of services provided at little or no cost include physical rehabilitation, mental health counselling, advocacy, benefit assistance, and career or vocational development.

Acknowledgements

The authors gratefully acknowledge the contributions of Cory Lawson, Jenny Massey, Sabrina Benton, and Candace Chapman for their work in data collection and patient treatment. Financial support for the study was provided through grants from the U.S. Army Medical Research & Materiel Command (USAMRMC) and the Telemedicine & Advanced Technology Research Center (TATRC), at Fort Detrick, MD. Finally, we are grateful to the patient who gave his time to participate in this study.

Conclusion

The subject reported decreased disability with low back pain, decreased neck pain, and disappearance of stuttering following hippotherapy sessions. This evidence suggests that hippotherapy may result in physical benefits for some veterans. Hippotherapy has the potential to restore, maintain, and promote

Original Articles

physical function as well as quality of life in aspects of disability, in some individuals. Further research is indicated.

Corresponding author: Roy Lee Aldridge Jr, raldridge@astate.edu

Authors R L Aldridge Jr,¹ A. Morgan,² A. Lewis¹ Author Affiliations:

¹ *Arkansas State University*

² *Memphis*

References

1. The American Hippotherapy Association. Hippotherapy As A Treatment Strategy American Hippotherapy Association;2010.[cited2011November20]Retrievedfrom:<http://www.americanhippotherapyassociation.org/hippotherapy/hippotherapy-as-a-treatment-strategy/>
2. Ling, D. S.; Kelly, M.; Diamond, A. Human-animal interaction and the development of executive functions. Freund, L. S.; McCune, S.; Esposito, L.; Gee, N. R.; McCardle, P. (Eds). The social neuroscience of human-animal interaction. Washington, DC, US: American Psychological Association; 2016. pp. 51-72.
3. Håkanson M, Möller M, Lindström I, et al. The horse as the healer—A study of riding in patients with back pain. *Journal of Bodywork and Movement Therapies*. 2009;13(1):43–52. W81XWH-11-1-0793
4. Hammer A, Nilsagård Y, Forsberg A, et al. Evaluation of therapeutic riding (Sweden)/hippotherapy (United States). A single-subject experimental design study replicated in eleven patients with multiple sclerosis. *Physiotherapy Theory and Practice*. 2005;21(1):51–77.
5. Snider L, Korner-Bitensky N, Kammann C, et al. Horseback Riding as Therapy for Children with Cerebral Palsy. *Physical & Occupational Therapy In Pediatrics Phys & Occupational Therapy In Pediatrics WPOP*. 2007May;27(2):5–23.
6. Lechner HE, Kakebeeke TH, Hegemann D, et al. The Effect of Hippotherapy on Spasticity and on Mental Well-Being of Persons With Spinal Cord Injury. *Archives of Physical Medicine and Rehabilitation*. 2007;88(10):1241–1248.

7. Shurtleff TL, Standeven JW, Engsberg JR. Changes in Dynamic Trunk/Head Stability and Functional Reach After Hippotherapy. *Archives of Physical Medicine and Rehabilitation*. 2009;90(7):1185–1195.
8. Hippotherapy Definition, History and Hippotherapy Programs | Front Range Hippotherapy. Denver Hippotherapy; 2010. [cited 2012 February 15] Retrieved from: <http://www.frontrangehippotherapy.com/about-hippotherapy>
9. Kern JK, Fletcher CL, Garver CR et al. Prospective trial of equine-assisted activities in autism spectrum disorder. *Altern Ther Health Med*. 2011 May-Jun;17(3):14-20. Granados AC, Agis IF. Why Children With Special Needs Feel Better with Hippotherapy Sessions: A Conceptual Review. *The Journal of Alternative and Complementary Medicine*. 2011;17(3):191–197.
10. Portney, LG, & Watkins, MP. *Foundations of clinical research: Applications to practice*. Upper Saddle River, NJ: Prentice Hall; 2000.
11. CQAIMH - STABLE Toolkit [Internet]. CQAIMH - STABLE Toolkit. Center for Quality Assessment and Improvement in Mental Health; 2007 [cited 2016 May 15]. Retrieved from: http://www.cqaimh.org/stable_toolkit.html
12. Monticone M, Baiardi P, Vanti C, et al. Responsiveness of the Oswestry Disability Index and the Roland Morris Disability Questionnaire in Italian subjects with sub-acute and chronic low back pain. *European Spine Journal Eur Spine J*. 2011Aug;21(1):122–129.
13. Jorritsma W, Dijkstra PU, Vries GED, et al. Detecting relevant changes and responsiveness of Neck Pain and Disability Scale and Neck Disability Index. *European Spine Journal Spine J*. 2012 Mar;21(12):2550–2557.
14. Glassman S, Gornet MF, Branch C, et al. MOS Short Form 36 and Oswestry Disability Index outcomes in lumbar fusion: a multicenter experience. *The Spine Journal*. 2006;6(1):21–6.
15. Sunwoo H, Chang WH, Kwon J-Y, et al. Hippotherapy in Adult Patients with Chronic Brain Disorders: A Pilot Study. *Ann Rehabil Med Annals of Rehabilitation Medicine*. 2012;36(6):756–761. University, Canberra, Australia 2014. Available at <http://onlinelibrary.wiley.com/store/10.1111/apel.12052/asset/apel12052.pdf;jsessionid=3F7110B919C4CA7A4D3C667247E91D86.f01t01?v=1&t=i75hus69&s=ef4f7ba58b36f6d02926935ce8390aae1f803a5a> , accessed 12 March 2015.

Volume 24 Number 3; July 2016

Page 27

W81XWH-11-1-0793

Roy Lee Aldridge Jr. PT EdD
Arkansas State University

31

Abstract

Title of Presentation: The Effects of Hippotherapy on a United States Veteran after a Stroke

Problem: The problem was to see what avenues in physical therapy might assist a United States Veteran from the Korean War after having a stroke. Few studies have addressed hippotherapy in individuals after a stroke. IRB approval was granted prior to the study and the participant signed informed consent

Purpose of the Study: The purpose of the study was to investigate the effects of hippotherapy on a United States Veteran after a stroke as a medical diagnosis. Hypothesis is the addition of hippotherapy to a traditional physical therapy program will result in a greater functional improvement in an individual patient's performance

Methods: A veteran of the Korean War participated in this study. The individual participated in both hippotherapy based physical therapy (Treatment A) and traditional therapy (Treatment B). The Individual was evaluated individually in a single subject trial design. Results were compared to individual and no one else. The first treatment A was randomly assigned and lasted for fifteen weeks followed by crossing over to the alternate treatment B for fifteen weeks. Treatments were scheduled to occur twice a week for both groups.

Results: The results of the study showed that the individual responded with greater effectiveness to hippotherapy as opposed to traditional therapy. The testing revealed that while some gains were noted in traditional therapy, greater improvements were noted while the individuals were involved in hippotherapy. During the initial evaluation, the physical therapist determined the impairments to be measured.

Data: For this individual, each measurement of impairment was illustrated in a graph. The X-axis was the dates of treatment and the Y-axis were measurements for that day. The data analyses compared the rate of improvement between the two groups. The rate of improvement was represented by the slope in the graph for each treatment group. For each measurement the slope for Treatment Group A and Treatment Group B was compared. Using an exact binomial table statistical significance was determined for each variable measured

Summary/Conclusion: Based on these results, hippotherapy should be considered a treatment option when dealing with individuals after a stroke. While not all measured areas demonstrate statistical significance, the rate of improvement was noted more significant in the group W81XWH-11-1-0793 individual in the study. While this study did show positive results with hippotherapy, additional studies should be performed.

THE EFFECTS OF HIPPOTHERAPY ON MOTOR PERFORMANCE AND FUNCTION IN UNITED STATES MILITARY VETERANS WITH LOW BACK PAIN



Disclaimer Statement

"This research and development project was conducted by Arkansas State University and is made possible by a research grant that was awarded and administered by the U.S. Army Medical Research & Materiel Command (USAMRMC) and the Telemedicine & Advanced Technology Research Center (TATRC), at Fort Detrick, MD under Contract Number: Award No. W81XWH-11-1-0793"

Non-Endorsement Disclaimer:

"The views, opinions and/or findings contained in this research are those of the author and do not necessarily reflect the views of the Department of Defense and should not be construed as an official DoD/Army position, policy or decision unless so designated by other documentation. No official endorsement should be made."



Purpose: To investigate if any differences are found in motor functioning and function when adding hippotherapy to a traditional physical therapy program with individuals with Low Back Pain.

Methods: The subjects included veterans from various branches of the United States Military. Treatment A consisted of the traditional physical therapy program with the addition of hippotherapy for 15 weeks. Treatment B consisted of a traditional physical therapy program for 15 weeks. Veterans were randomly selected to receive either Treatment A or B initially. A-B Single-Subject Repeated Measures Design

Outcomes: The initial results of this study showed that there were differences found when adding hippotherapy as an adjunct therapy to a traditional physical therapy program. **Conclusion:** The addition of hippotherapy to a traditional physical therapy program seems to improve motor functioning in an adult with functional issues.

METHODS

Two subjects volunteered to participate in the investigation through the Beck PRIDE Center. The study was approved by the University Institutional Review Board for human subjects. All subjects signed a written informed consent prior to testing.

Each subject received physical therapy for 30 weeks. Subjects either received physical therapy including hippotherapy or traditional therapy for fifteen weeks followed by the alternate treatment for fifteen weeks

STATISTICAL ANALYSES

After each treatment protocol, slope and trend lines for each treatment were established and compared

RESULTS

The slopes when compared for each participant Treatment A (therapy and hippotherapy) resulted in a greater decrease in pain and increase in function than Treatment B (therapy)

Roy Aldridge, Jr., P.T., Ed.D.
Professor of Physical Therapy



CONCLUSIONS

The results of the study suggest that hippotherapy does result in a greater increase in motor performance and function when compared to traditional therapy



W81XWH-11-1-0793

Presenter information:

- Names, credentials and brief biographical sketch of presenters (and non-presenting co-authors)

Roy Lee Aldridge Jr received a bachelor's degree in Physical Therapy from The University of Tennessee in 1990 and an Advanced Physical Therapy degree in 2001 from The University of Tennessee. Roy received his Specialist Degree in 2004 and his Doctoral Degree in 2008 from Arkansas State University. Roy has been published and presented in the effects of hippotherapy.

□ **Content description:**

○ **Title of presentation**

THE EFFECTS OF HIPPO THERAPY ON MOTOR PREFORMANCE AND FUNCTION IN UNITED STATES MILITARY VETERANS

○ **Abstract (with figures if appropriate) – Max. one page, any format.**

▪ **If research paper, include Intro, methods, results, discussion.**

▪ **References only on second page.**

Hypothesis/Issue to be Addressed: To investigate if any differences are found in motor functioning and function when adding hippotherapy to a traditional physical therapy program with individuals with Low Back Pain.

Methods: The subjects included veterans from various branches of the United States Military. Treatment A consisted of the traditional physical therapy program with the addition of hippotherapy for 15 weeks. Treatment B consisted of a traditional physical therapy program for 15 weeks. Veterans were randomly selected to receive either Treatment A or B initially. A-B Single-Subject Repeated Measures Design

Observations/Outcomes: The initial results of this study showed that there were differences found when adding hippotherapy as an adjunct therapy to a traditional physical therapy program.

Conclusion: The addition of hippotherapy to a traditional physical therapy program seems to improve motor functioning in an adult with functional issues.

○ **Brief statement describing how this presentation adds to the body of knowledge about hippotherapy and how it will be beneficial to participants. For example, how it assists with care, improvement of equine and HPOT.**

This presentation will reveal the latest endeavors in the use of hippotherapy on our veterans as they return home and address their physical needs

□ **Presentation process:**

○ **Presentation outline (include ideal time requested for effective presentation)**

30 minutes

○ **2-3 Learning objectives**

Describe the process of a single subject research design

Describe the statistical analysis including slope and exact binomial scales

Describe the benefits of hippotherapy in veterans

○ **Describe presentation process (e.g. lecture with ppt, workshop, activities, simulation)**

Lecture with ppt

W81XWH-11-1-0793

February 15, 2015

Arkansas State University is pleased to release a manual documenting our journey to provide support services on our campus for disabled veterans seeking our assistance. The Beck PRIDE Center for America's Wounded Veterans opened in October, 2007 and has been an award winning, signature program since that time. The Department of Defense provided funding in 2010 to study the effectiveness of our program. Part of that project included development of an informational and resource manual to be shared with college campuses. The booklet and enclosed resource sheet contains a variety of materials that may be of value in the development of your own program or enhancing existing operations.

It has been a privilege to serve our veterans and their families. They are so grateful for our attention, but our staff are the ones who are rewarded with this work. The experiences continue to be very enriching and memorable.

I hope you will contact us should we be able to assist your work in anyway.

Please share this document with the individual on your campus who is or might consider doing work in this area.

Have a great academic year!

Sincerely,

Susan Hanrahan, Dean
College of Nursing and Health Professions

Enclosure

W81XWH-11-1-0793

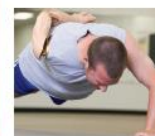


FOR INFORMATION PLEASE CONTACT:
Beck PRIDE Center
P.O. Box 910
State University, AR, 72467
(870) 972-2624
ASU.edu/cpi/beckpride/

This research and development project was conducted by Arkansas State University – College of Nursing and Health Professions and is made possible by a research grant that was awarded and administered by the U.S. Army Medical Research & Materiel Command (USAMRMC) and the Telemedicine & Advanced Technology Research Center (TATRC), at Fort Detrick, MD, under Contract Number W81XWH-11-1-0793.

The views, opinions and/or findings contained in this publication are those of the author(s) and do not necessarily reflect the views of the Department of Defense and should not be construed as an official DoD/Army position, policy or decision unless so designated by other documentation. No official endorsement should be made.

*"We often take for granted the very things
that most deserve our gratitude."
- Cynthia Ozick*



BECK PRIDE CENTER

For America's Wounded Veterans



CHARLOTTE V. BECK

Since attending Arkansas State University in 1959 and 1959, Mrs. Beck has given generously of her time and talent, exemplifying the power of volunteerism and philanthropy to benefit wounded members of Americans.

During her college years, she was a member of Alpha Omicron Pi Sorority, a Sigma Pi Sweetheart and an honorary cader of the ROTC Band. She was not able to complete her degree because she accompanied her husband Buddy G. Beck, on his distinguished military career of more than 20 years.

Throughout this time, she saw opportunities to serve, giving generously of her efforts for officers' wives clubs, PTA boards, as a Boy Scout and Girl Scout troop leader, and a volunteer at numerous military hospitals. She also served as administrative officer and human resources officer at several highly successful businesses and is currently president of Tri-State Heritage Group, overseeing a large real estate portfolio and setting its strategic goals.

Today, as founder and co-chair of the Beck Foundation, we honor her vision in creating the Beck PRIDE Center for America's Wounded Veterans, housed in the College of Nursing and Health Professions at Arkansas State University. The word 'PRIDE' sums up its mission: Personal Rehabilitation, Individual Development and Education. This project will serve as a model for similar centers across the country. She also co-founded the Mike Beck Veterans Scholarship Fund through the Sigma Pi Educational Foundation to extend resources to veterans and the families of those killed in action.

Mrs. Beck exemplifies the best of Arkansas State University and will stand as an inspiration to students, alumni and friends. It was with great pleasure that Arkansas State University conferred upon her the honorary degree of Doctor of Humane Letters in recognition of her outstanding achievements and exemplary public service to the people of Arkansas and the United States.

Marriage enrichment
class offered

Understanding thanks
workshop offered

100th participant for
ODD research
project awards

Hypotherapy
research project
awards 11
participants

Beck Hope Inspiration
Fundraiser

W81XWH-11-1-0793

BECK PRIDE CENTER

For America's Wounded Veterans

*To the PRIDE Vets – Charlotte and I
thank you for the service of you and
your families. WELCOME HOME!*

*America is forever grateful to you for
your service. We cannot do everything,
but we do hope in some small way we
can help with your transition back to
a future in the great USA. God bless all
of you and the United States of America.*



W81XWH-11-1-0793



enrich:

A LETTER FROM DR. TIM HUDSON, A-STATE CHANCELLOR

Arkansas State has a long history supporting the men and women who have defended our freedom. One part of that mission is education, dating back to our formative years and continuing with one of the oldest officer training programs in the country. While our role in sending our best and brightest into the military is important, but through the vision of A-State alumni and the expertise of our College of Nursing and Health Professions, Arkansas State plays an increasingly vital role in supporting veterans returning from their service.



Just as ROTC prepares individuals for military service, the Beck PRIDE Center seeks to provide important transitional services to former and current active duty personnel. Ranging from guidance on their educational benefits, career support and counseling, physical rehabilitation services and assistance to their families, the Beck PRIDE Center seeks to help. Arkansas State recognizes the impact of a veteran's service to our country may not appear until years after their mission are over. Through Beck PRIDE Center's numerous programs, we provide combat wounded veterans with a wide range of personal rehabilitation services.

The guidebook illustrates the history of the Beck PRIDE Center and the vision of those who worked tirelessly to make it a reality. As you read through it, I would ask you to think of those important items. Do you know someone who would benefit from the services of Beck PRIDE? If so, please notify our staff. If there is a need for a Beck PRIDE-style program on your campus or in your region, contact our Beck PRIDE administrators. Finally, if you are moved by the achievements of Beck PRIDE and would like to become a part of the team, reach out to us at Arkansas State.

Winston Churchill once said that "we sleep safely at night because rough men stand ready to visit violence on those who would harm us." The Beck PRIDE Center seeks to be the resource standing ready for veterans of our modern day battlefield, and to be the transition, supporters and advocates who will allow them and their families to return to civilian life. They have protected our way of life, the least we can do in return is the Beck PRIDE Center.

Tim Hudson

Tim Hudson

February 2007

So much before

An Alumni was seeking ideas about programs/support for wounded veterans.

Chancellor consulted with the College of Nursing and Health Professions dean, who gathered some department chairs together to discuss possibilities including the name of such a program. A document was constructed that conceptualized the program and provided it to the chancellor.



The chancellor presented this concept outlining basic program elements for a wounded veterans' center to alumni Buddy G. Beck and his wife Charlette.

Discussions between the university and proposed benefactor are conducted to define the program mission, beneficiaries and core service components.

This university chancellor and dean of the College of Nursing and Health Professions (CNEHP) garnered an initial verbal commitment from the Beck family in February 2007 of \$1 million.



The CNEHP soon accepted the challenge to develop, administer, staff and operate the program within the CNEHP.



mission:

BECK PRIDE CENTER FOR AMERICA'S WOUNDED VETERANS

The innovative program provides combat wounded veterans rehabilitation, social re-integration and educational preparation in a university environment. It prepares wounded veterans for post-service careers and offers resource support for veterans and their family during this critical period. The center's mission is reflected by the acronym "PRIDE" as it represents the primary focus on Personal Rehabilitation, Individual Development and Education. Examples of services designed to support the veterans in achieving their post-military goals include access to the higher education experience, mental health counseling, personal rehabilitation, advocacy, benefits/financial assistance and career/vocational development. The services are designed to supplement, not duplicate, veteran's government benefits. These "gap" services are provided at no cost to the veterans.



March 2007

Five weeks before
Preliminary planning begins. The program start date is estimated for late fall, based on the expectation that donor funds will be received prior to calendar year end.

The CNIP dean retains individuals to conduct need assessments via interviews at the local, state and national level.

The university chancellor and CNIP dean travel to Washington D.C. to meet with and e-mail call on veteran alumni to assist in order to garner program support from the Department of Defense, Veteran Affairs, military organizations, congressional representatives and other key figures on Capitol Hill and at the Pentagon.

The CNIP dean, university president, chancellor, other university administrators and board of trustees evaluate the program organization and scope. They determine the financial structure will be managed within the university's foundation, versus forming a separate 501 (c) 3.

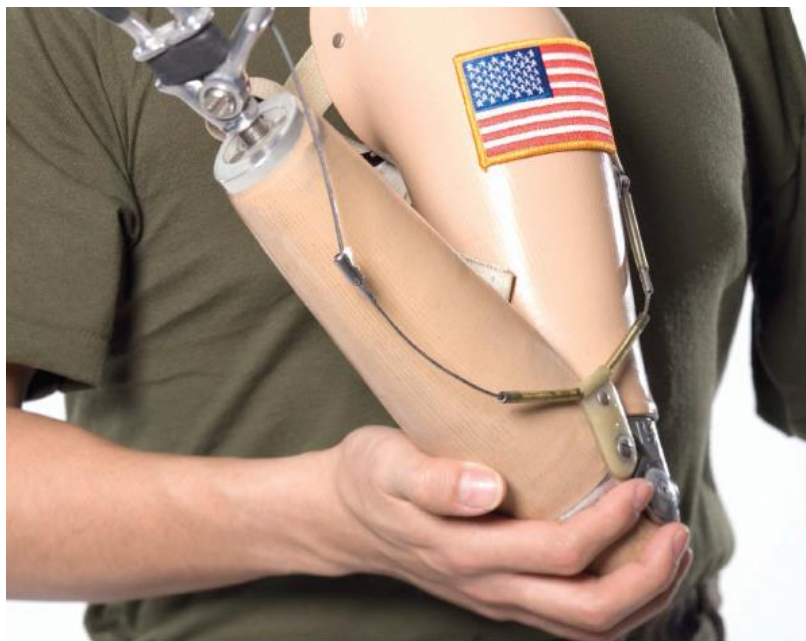


Based on the information collected, the CNIP dean provides additional detail to the conceptual framework including:

- A mission to serve active duty and honorably discharged, wounded combat service members and their families from present day conflicts who desire further educational attainment.
- CNIP will provide physical therapy, speech therapy, audiology, social work and limited nursing consultation on campus within the CNIP at no cost to participants. Other healthcare related services such as mental health, occupational therapy, ethics and others will be referred out to the Veterans Health Care Administration, military or community providers on a case-by-case basis.
- It is determined initial funding will support up to 50 participants.

August 2007

Two weeks before
The university chancellor and CNIP dean determine the need to open the center prior to receiving the beneficiaries' monetary donation in order to serve a large number of Arkansas National Guard troops' imminent return from Operation Iraqi Freedom.



BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

7

personal rehabilitation:

Upon entry to the Beck PRIDE Center program, the combat wounded veteran must undergo an initial assessment from the social work management team to determine the services instrumental for the veteran's successful rehabilitation and reintegration into the civilian world. A few of the specialized services available to the veterans at Arkansas State University include physical therapy, hydrotherapy, speech, language, pathology and audiology, nutritional assessment and counseling, medication assessment and outpatient mental health treatment. Services are not limited to resources on the Arkansas State University campus, and community resource referrals are made as deemed necessary during the assessment phase and throughout the treatment process.

Veterans are returning from combat not only with physical wounds but psychological ones as well. The Beck PRIDE Center recognizes this fact and furnishes mental health counseling for wounded veterans and their dependents who may be also suffering the effects of this psychological wounds. The mental health services are provided by therapists employed by a local outpatient counseling center who are cognizant of the military culture and have had extensive training in working with trauma victims, such as combat veterans.

The rehabilitative services offered through involvement with the Beck PRIDE Center can be provided on a short and long term basis depending on the assessed needs of the veteran who may be experiencing symptoms of Post-Traumatic Stress Disorder (PTSD), Traumatic Brain Injury (TBI) or other combat wounds. The Beck PRIDE Center is designed to be a "one-stop shop" for veterans and their families, thereby enabling them to obtain resource information and treatment in one location in an effort to increase availability and more consistent participation.



The university makes a commitment to open the Beck PRIDE Center doors within two months (prior to receiving donor funds).

The CNIP dean initiates and personally administers steps within the university's internal process for a new program implementation.

The university chancellor and CNIP dean announces the preliminary program news within the university.

The dean secures physical space. The Beck PRIDE Center will utilize one office within the CNIP facilities on campus.

- Logistics for phone service, equipment and office supplies are determined and secured, utilizing CNIP resources.



The CNIP dean leads the staffing process:

- Staff compensation coordinated between foundation's donor funds and university benefits.
- The full-time social worker is hired to operate the program.
- One part-time volunteer (within university faculty) is hired for redefining the state's military community.
- The part-time program coordinator is hired.

October 2007

Program Begins

The program director, a working back torso and CNIP dean develop the program infrastructure.

- Develop draft intake forms, assessment related forms.
- Finalize policy and procedures reviewed by university legal counsel.
- Determine processes for participant confidentiality.
- Establish processes for participant referrals to CNIP rehabilitation services providers.





BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

9

individual development:

The Beck PRIDE Center also focuses on the veteran's individual development that goes beyond the physical and mental needs in an effort to encourage a successful reintegration process. These efforts are aimed at increasing socialization with other veterans on campus, in the community and with society as a whole by encouraging participation in scheduled events and activities held at the university and in the local communities. For example, "BVA Wednesday" is an event that occurs every month at the Beck PRIDE Center and is hosted by various veteran service organizations in the area. It, in part, serves as a mentoring opportunity for older veterans to share with the younger generations about reintegration into civilian life and possible obstacles they may encounter in the future. The activity also serves as a forum for the wounded veterans to share their struggles and successes with the reintegration process.

Reintegration activities are also incorporated with the ASVO (Arkansas State Veterans Organization), which is a student veteran lead organization that was developed shortly after the inception of the Beck PRIDE Center. The mission of ASVO is to develop student veterans groups on college and university campuses, and coordinate, by region, between existing groups, to connect student groups with resources and be an advocate on behalf of student veterans at the state and national level. ASVO activities include events focusing on socialization with other students groups on campus, community service, education and career development.



Develop a client filing system to maintain information in a secure location.

Determine initial services to be referred to VA, military government and community providers:

- Mental health counseling
- Substance abuse treatment
- Auxiliary facilities, such as occupational therapy, critiques, vision, dental, legal and financial services

Establish referral and service processes within key university departments for veterans' services:

- Veterans register, financial aid, housing, account services, disability services, university and departmental advising, TAD programs, campus security, parking services, career services, non-traditional student organizations and other primary contact points; students with disabilities may encounter

Implemented the "systemic approach" process to define the scope and method for services provided to participants and/or family members:

- Conduct the need to provide most services at no or minimal cost to participant.
- Participant interventions will be approached from an individualized versus standardized position.
- Address interventions directed to "best fit" for the veteran's perspective after researching VA, military, the university and community based services.



Participation in the program will be voluntary:

- Respect the participants' right to self-determination, whether to seek further help or discontinue services.
- Services and when participants attain their goals, advocate out of the service area or other factors decided on a case-by-case basis.

Determine procedures to verify participant qualifications:

- Utilize form 102794 to verify military service and discharge details.

Identify and begin making on-campus connections with key military points of contact.





BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

11

education:

College admission and registration can be very confusing and complex for the veteran during the reintegration process. In an effort to provide clarity to the situation, the Beck PRIDE Center staff assists the veteran in navigating the process. The support services specialist acts as a mediator for the veteran, and supporting agencies on and off campus. Wounded veterans can utilize their Post 9-11 educational funds but are often able to qualify for educational assistance and/or training through the VA Vocational Rehabilitation Program. The Beck PRIDE Center provides office space for a VA Vocational Rehabilitation counselor who visits the campus monthly to assess wounded veterans for that particular program. Regardless of which educational fund the student veteran decides to utilize, the VA certifying official at A-State works closely with the student to ensure prompt issuance of their funds. Educational benefits afforded veterans are often underutilized. The Beck PRIDE Center staff assists the veteran seeking post-service careers, supports educational development and serves as an educational and research resource for students and faculty members. Most of the educational assistance provided by the center staff includes career counseling and advisement, financial aid programs and scholarship opportunities, disability accommodation services, tutoring and peer mentoring, career placement and any other identified services that would facilitate the veteran's educational process.





BECK PRICE CENTER : ARKANSAS STATE UNIVERSITY

13

facility:

The Beck PRICE Center is not only a one-stop shop for services, but it is also a place for study, social experiences and reintegration opportunities. The Beck PRICE Center is located within the College of Nursing and Health Professions (CNHP) on the ASU campus. Initially, the program utilized one small office on the third floor of the College of Nursing and Health Professions building, then moved into two offices within the CNHP's social work department. In 2008, the center moved into the newly constructed Doris W. Reynolds Center for Health Sciences and now occupies three offices for two full-time social workers and two graduate assistants. The area is easily accessible for tutoring, meetings and consultation with staff members. The Day Room is a large open room with tables, couches, computers, television and kitchen area. This room is an area where veterans can feel at home in an unfamiliar environment. It is a place where they feel accepted and can talk to other veterans; there is a sense of community and trust. There are also areas in the Reynolds Center where physical therapy and other services are provided to veterans. The Beck PRICE Center facility has flourished into something much more than a place to host a program. It serves a place of comfort and community for student veterans.



Month 1

Assess and document veterans health benefits, service gaps.

- The first gaps discovered included, but were not limited to:
 - VA discontinued local Vet Center outreach, insufficient VA primary mental health counselors and extended treatment programs for PTSD and other combat related issues, sleep disorder assessment, inefficient VA medication delivery system, gaps in medication assistance and co-pay, VA travel reimbursement issues, independently care, waiting times for primary care services and limited local healthcare services.

Collaborate service areas for tracking and service delivery purposes.

- Education Assistance
- Personal Rehabilitation
- Career Services
- Mental Health Services
- Social Services and Benefits
- Recreation, Mentoring



Develop printed materials.

- Design a logo, tag line, mission statement, brochure, website and business cards.
- Utilize the university's creative services and printing department for production of promotional materials.

Develop and launch a web page within the university website.

- Utilize the university's creative services, IT staff.

Initial program web pages contained information on:

- Eligibility requirements, services provided, program contact information, calendar of events.
- Links to the university's veterans-related services and campus points of contacts.
- Links to helpful external organizations like veterans education and VA benefits information, VA healthcare resources and military forms.
- Links to helpful community based resources and military organizations.
- Online request for information or program participation.
- Each online request forwarded to the program director's email for follow-up contact.





BECK PRIDE CENTER - ARKANSAS STATE UNIVERSITY

15

awards:

THE ENTIRE STATE BENEFITS WHEN AN ARKANSAS PROGRAM IS NATIONALLY RECOGNIZED. THE BECK PRIDE CENTER HAS RECEIVED SEVERAL PRESTIGIOUS AWARDS:

Sept. 10, 2009 - *Newman's Own* Fisher House Award: one of top 10 U.S. non-profit organizations providing innovative service to American military families.

U.S. Colleges and Universities: Ranked 10th in 2010, 29th in 2011, and 21st in 2012 and 2013 in *Military Times* "Best for Vets at U.S. Colleges" (Only Arkansas school on the top 100 list). Listed in *Globe Magazine* as one of the "Top 100 Military Friendly Educational Institutions" for years 2009-2014.

Recipient of \$100,000 American Council on Education (ACE) award funded by Wal-Mart.

National media coverage: Disabled American Veterans, Veterans of Foreign Wars, US Department of Defense American Forces Press Service and US American Forces Radio, Salute to Freedom, "Veterans on Campus" Paperclip Communications.



Meet with university media and public relations point of contact (PRC) to develop a communications strategy in order to increase public awareness.

- Write program details to use as content for future news releases.
- Get quotes about the benefits of services from participants, with their permission.
- Research contact information from local, state, national VA, military media personnel, military service organizations, military publications and other interested parties.
- Provide contact information to university media PRC.
- Invite the university media PRC to attend all program sponsored public events and program group events.

Relationship building within the regional military community begins.

- Attend local national guard "D-W" weekends.
- Place informational material on unit bulletin boards.
- Meet with military and civilian staff at each army.
- Accept invitations to attend as many military events as possible.
- Display materials at National Guard Reserve reintegration trainings.
- Learn about what the needs of the combat injured service members are.



January 2008
Time Herald

Conduct a Veterans' welcome to campus open house event.

Conduct interviews and discussions with VA mental health providers to learn best practice methods for addressing veterans' mental health needs.

- Program staffing begins utilizing a solution-focused approach to address needs of veterans.

Vel Center commits to and begins conducting weekly on-campus individual and group counseling services for combat vets from the community, including participants.



Director and military liaison establish statewide presence through broad based organizations like:

- Employer support of the Guard and Reserve, Military OneSource, Military Officers Association of America, and others.



BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

17

eligibility:

Since the Beck PRIDE Center's inception in October 2007, more than 450 veterans and their dependents have been served by the center. The population served is combat-wounded and honorably discharged veterans. In order to receive services from the Beck PRIDE Center, veterans must have fought in present-day conflicts (Post 9-11). Veterans seeking services who do not meet the criteria of the program are considered RPOs (Resource Referrals Only) and are referred for services with various community agencies. The attention each veteran is given is highly individualized and provided with a hands-on approach by military, culturally competent health care providers. Because the services are so individualized based on the initial assessment, referrals are made to supporting community agencies if a veteran is in need of services that are not provided through the Beck PRIDE Center.



Collaboration efforts
are formalized
with the county
Veterans Service
Office.

The Governor Mike Beebe
Wounded Veterans Scholarship
Fund is established through the
Sigma Pi Fraternity Educational
Foundation to benefit Beck PRIDE
Center participants enrolled at the
university.

- Events are held annually at
the Arkansas Governor's mansion.



A scholarship
form and award
process is
developed and
implemented.

A program letter is
designed and
provided to
participants at
enrollment.

University presentations begin
for a military friendship/cultural
competency workshop.

- The first presentation to the
university faculty occurs.

Begin public speaking
engagements to military
service organizations,
community groups.

Relationships are
established with all
the regional VA
transition offices.





BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

19

relationships:

The purpose of the Beck PRIDE Center is to provide veterans with short and long term rehabilitation (physical and mental), educate family members on caregiving, assist with post-service careers and serve as both an educational and research site for students and faculty. The Beck PRIDE Center was also implemented to build and maintain relationships. The relationships between the veterans, the veterans and the staff, and the staff with outside veteran organizations are extremely important in support of personal development and therapeutic rehabilitation. The center also prides itself on creating and maintaining relationships with local service providers and veteran organizations. The relationships within the Beck PRIDE Center are vital to the success of the program.



May 2008

See Above
The program staff grows to two full-time social workers.

Begin to identify ways to help rehabilitated injured combat veterans get back into America's main stream.

The program introduces its first service project to promote socialization and integration.

- The community based project was chosen and organized by the program staff to highlight awareness of the program as well as needs of America's deployed troops.
- Mission participants, university faculty and staff, ONAP physical therapy program, military service organizations, radio and TV stations, and local businesses join forces to volunteer and complete project "Support our Troops." Items filling more than 200 care packages were gathered at five collection sites, packaged and mailed to regional national guard troops deployed to Iraq.



Establish book purchase and loan program called "Books to Books."

- Funds to run the book program come from community donations.
- Student veterans purchase up to \$200 in books through the on-campus book store and the program receives an interest.
- Veterans return textbooks that are added to the program's loan library.

Director is appointed to Governor's Statewide Veterans' Task Force with the university chancellor serving in an advising capacity.

Partner with the Small Business Administration for a workshop to promote the Patriot Loan program, encouraging veterans to become entrepreneurs.

A "combat to college" new student orientation process is implemented.





BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

21

problem solving therapy:

The center uses problem-solving therapy as the strategy for assisting the veterans. Problem-solving therapy (PST) is the best practice approach for a short-term, cognitive behavioral intervention that incorporates a systemic method for engaging wounded veterans' "help seeking" behaviors, referral coordination and problem solving. The expected result is for veterans to acquire new skills for successfully resolving interpersonal difficulties. The PST skills include increased situational awareness, problem definition, goal setting, creating, choosing and implementing best fit solutions, decision making, appropriate assertiveness, follow through and eventually the ability to evaluate their changes and outcomes. By consistently implementing these steps and making them part of their personal skill set, wounded veterans can cope adaptively with new personal, educational and professional challenges. PST shifts the focus of emotional and behavioral changes from the wounded veteran to the framework of the family unit. This approach differs from others by emphasizing problems within the social context or social situation. Through the PST process, the wounded combat veteran with needs for psychosocial, physical or education problems has these issues addressed by direct assistance or provider referrals specific to the situation. These problems are broken down into smaller parts. Veteran's issues are defined as a particular behavior that is a part of a sequence of acts among several persons. The goal of this approach is to solve problems, achieve goals, improve behavior, respond to stressors and improve overall quality of life.



Student veterans with disabilities may now do testing within the center facility.

Academic processes begin developing for participants.

- Academic mentoring and tutoring begins.
- Participants receive priority registration.

Relationships are developed with VA Vocational Rehabilitation to meet with participants on campus.

Other key relationships are developed to assist military families from:

- Regional family readiness groups, Family Assistance Coordinator, Army Staff, Chaplain, Military Mail, Military One Source and other military family support organizations.

A process for on-campus transportation and parking issues for program participants and other disabled veterans is established.

A veteran-friendly, on-campus housing process is established for program participants.



Program receives \$22,500 grant from the Disabled American Veterans for summer delivery.

October 2008
One Year
52 Participants are actively enrolled in the program.

The program staff moves into two offices within the CNIP's social work department.

The program receives monetary support from the American Red Cross.

The university commits to join forces with University of Arkansas and Northwest Arkansas Community College to support an educational conference via the Governor's Veterans Task Force.

Participant family social events are promoted.

- The program joins with CNIP physical therapy department at football tailgates.
- The first full family picnic and awards ceremony is conducted.



BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

23

supporting agencies:

Services for the Beck PRIDE Center are not limited to resources on the Arkansas State University campus. Once a veteran's initial assessment is completed, Beck PRIDE staff members determine the necessity of outside referrals. These referrals could include personal rehabilitation, individual development or educational services. A few of the supporting agencies for the Beck PRIDE Center include the educational supportive services listed in the Education section of the manual, A State College of Nursing and Health Professions, Area Health Education Center, American Red Cross, Arkansas Department of Emergency Management, A State Military Science Department, Arkansas Army National Guard, Arkansas Department of Workforce Services, VA facilities in Little Rock, Ark., Memphis, Tenn., and Poplar Bluff, Mo., and the VA Community Based Outpatient Centers (CBOCs) in the local communities. Because of the relationship between the Beck PRIDE Center and the supporting agencies, veterans are not put on extensive waiting lists for services. The support given by these agencies is imperative in order for the Beck PRIDE Center to continue to provide prompt assistance to wounded veterans.



Physical wellness is introduced with a fitness competition among participants.

- A local gym provides 24/7 access and services to both participants and family members.
- Participation is better than expected for the six-week project.

Planning begins for a national advisory council comprised of representatives of military, industry, academia and government. Its purpose will be to further develop the program and provide vision for the future of the organization.

Coordination for regional rehabilitation services formalized with the Army Wounded Warrior program.

On December 11, 2008, the program received a \$100,000 gift from the Walt Mart Foundation to fund services for veterans.

April 2009

Conducts its first National Advisory Council Meeting in Washington, D.C.

- The National Advisory Council meets before year in the spring and fall during university football remaining weekend.
- National Advisory Council approves constitution and bylaws.

Beck PRIDE Center co-sponsors its first educational conference for service providers with the Arkansas Chapter of the National Association of Social Workers.

The program director assists in the development of a veterans' court process for Arkansas.

Group of participants develop the Arkansas Student Veterans Organization (ASVO) and it becomes a registered student organization on campus.

- Beck PRIDE staff serve as the ASVO faculty advisor.
- The ASVO sponsors with the Student Veterans of America (SVA).
- The ASVO takes primary responsibility for the service project mission.





BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

25

staffing:

The Beck PRIDE Center is currently staffed by two full-time employees with a background in social work who are military competent. From the start, the Beck PRIDE Center needed someone who could function as a case manager, identify veterans' needs, and operationalize the program. It was clear there were needs for veterans in the community that were not being met. Social work proved to be the best professional background for the Beck PRIDE Center paid staff because of the nature and complexity of the program and its participants. A background in social work provides workers with a natural ability to work in the mental health arena, an ability to identify appropriate resources and make connections. Our staffing pattern has been a perfect fit for working with veterans, managing the overall program and putting the different pieces together.



Four participants graduate with bachelor's degrees (Social work, civil engineering, business administration, criminology).
• The program provides not only academic credit for the participants to earn in their graduation roles.

A legal pin with the program logo is produced to give to distinguished individuals and participants.

Broaden outreach for participants within the university and greater community.
• Veterans court, disabled veterans' housing, food education, services on military topics like cultural competence for mental health counselors.



Transition from implementation to addressing key programmatic issues like:
• Stable housing, sustained growth, increased state/federal/federal visibility, focus on adding program dimensions and enhancing existing operations, veterans' state initiatives and program replication.

Collaboration with nationally recognized organizations like:
• Military One Source, Project Healing Waters, Civilian War, Military Child Education Coalition.

Record and report participant data/numbers.
• For example: active participants and service demographics, veterans/dependents enrolled in school, CTRC, graduates, physical rehab and other rehabilitation visits, mental health referrals, scholarship recipients.

October 2009

New Room Center moves into new and expanded facilities within the CHRP. The program utilizes these offices and a multi-purpose room named the "Joy Room".
• Program has now served 181 veterans and their families, with 64 actively enrolled.



Provides access to space for approved military services organizations and VA to utilize when meeting with program participants.



BECK PRIEDE CENTER - ARKANSAS STATE UNIVERSITY

27

funding and research:

The Beck PRIEDE Center began in October 2007 with a \$1 million gift from the Beck Family Foundation. The center operates within the College of Nursing and Health Professions on the A-State Campus. Much of the funding is provided through fundraising projects, gifts from companies or veteran organizations, grants and government funding. The Beck PRIEDE Center received a \$37,500 gift from the Disabled American Veterans for service delivery in May of 2008. In December of 2008, the center received funding from a number of sources including a \$100,000 unsolicited gift from Wal-Mart Foundation's partnership with the American Council on Education, recognizing Arkansas State University as one of 10 universities across the nation providing outstanding educational support to student veterans. In October 2010, the university was awarded \$1.4 million in Department of Defense funds for a research project measuring the effectiveness of the Beck PRIEDE Center for America's Wounded Veterans model. This research study is currently underway. Through this funding, the Beck PRIEDE Center is able to provide confidential and expanded services to veterans while evaluating the effectiveness of the program. Program inquiries are fielded from across the country. Staff share programming information while participants share their own personal stories of assistance they have obtained through the center.





BECK PRIDE CENTER : ARKANSAS STATE UNIVERSITY

28

important facts:

More than 13,000 Arkansas Army National Guard and Army Reserve soldiers have served in present-day conflicts. In addition, thousands of other Arkansas men and women represent every branch of service, many engaged in present day conflicts. Approximately one-half of those assisted at the center are individuals who are returning to our state with career-ending injuries.

The Beck PRIDE Center is a nationally recognized, unique wounded warrior rehabilitation program. It serves as a model program to other Arkansas and U.S. institutions of higher education engaged in serving this at-risk and non-traditional student population.

Since 2007, more than 450 injured combat veterans, plus their family members, have received beneficial rehabilitation and selected services that have assisted them throughout the reintegration process.



In June 2010, the program applies for a \$125,000 grant from the Aspis Foundation to support two educational programs for health care providers in two communities on topics specifically relevant to the needs of soldiers and their families seeking care, and to host a family/uniformed weekend for veterans and their families. The grant was not funded.

In June 2010, the program applied for a grant from the Disabled American Veterans Charitable Service Trust to support adding a hippotherapy program to the veterans rehabilitative treatment program. This grant was not funded.

October 2010

Three Years

University is awarded \$1.4 million in Department of Defense funds for a research project measuring the effectiveness of the Beck PRIDE Center for America's Wounded Veterans model.

April 2012

Four Years, Six months
000 research project enrolls first participants.


Client tracking software program begins.


Hippotherapy research project begins.



October 2012

Five Years
Hippotherapy enrolls first participants.





BUDDY GENE BECK

Buddy Gene Beck graduated from A-State with a bachelor's degree in chemistry and received his commission as a Second Lieutenant from Arkansas State University Army ROTC in 1957. He later earned his master's degree from the University of Southern California in Systems Management, with a fellowship at the Brookings Institute in Washington D.C. He graduated from the Army War College in 1978 as part of the "Platoon of Chiefs" and was later designated as "Outstanding Alumnus." His Senior military schools include graduation from the U.S. Army Command and General Staff College. He served in Korea, Germany and Vietnam and retired from the Army in 1984 as a Colonel after 26 years of distinguished service. He currently serves as a trustee of the Army War College Foundation and was recently voted into the A-State Military Hall of Honor.

Following public service, he launched a business career in advanced research and engineering. He was awarded three patents in computational engineering and advanced sensors, founding a number of companies involved in energy defense and medical technology. The resulting firm was named by Business Week in 1993 as the nation's fastest-growing, small private technology company, which was later acquired by Thermo Electron Company, a Fortune 500 company.

In 2000, he founded Truon Digital Technologies, a leader in advanced technology identity solutions that produce U.S. passports and smartcards. It was acquired by Vinger Technologies, a NASDAQ firm that produce secure identity solutions and credentials where he is vice-chairman of the board.

He sits on the boards of six other companies, as well as national security boards and non-profit organizations. He was recently appointed to the board of the Virginia Bioinformatics Institute and the Army Science Board to provide counsel to the Secretary of the Army in scientific and technology matters.

He and his wife Charlotte are active members of the ASU Alumni Association. They have two children, Deborah Beck Corbette and Michael Beck, and reside in Fairfax Station, Va.

COL (R) Buddy G. Beck
"Outstanding Alumnus" (October 2008) National Security Council for Intel and Cyber administration. Leader in the technology community creating three firms. He is on boards of private, public, non-profit and national security. AFSC Case of 100% Army War College

<p>"Welcome Home" celebrating all Millington Naval Base</p>	<p>April 2013 Five Years, Six Months Sharron's Shuffle - first fundraiser sponsored by Downtown, Jordanboro and Grafton Outfitters.</p>	<p>Annual Forum City Cemetery</p>	<p>October 2013 Six Years Conrad support group meets weekly</p>	<p>April 2014 Six Years, Six Months Angie management class offered.</p>
--	--	---------------------------------------	--	--



Below is a list of resources available at AState.edu/cpi/beckpride/

Forms

Intake: The Intake form provides information for qualification, identification, contact, and referral services.

Information and Referral (I & R): The I&R allows tracking of individuals that are outside the scope of services for the Beck PRIDE Center and where they were referred for services.

Consent for Services: The consent for services provides a description of the Beck PRIDE Center program and gives consent for their participation.

Informed Consent for Physical Therapy Research Project: A description of "The Effects of Hippotherapy on Motor Performance in Individuals with Disabilities" study and consent to be evaluated and participate.

Volunteer Application and Agreement form: Brief overview of skills, past experiences, volunteering, contact information and time available.

Beck PRIDE Center Brochure: Brief overview of the program and services.

Special Program Materials

Beck PRIDE Center PowerPoint: An overview of the development of the Beck PRIDE Center and services offered by the center.

Beck PRIDE Center Overview: Fact sheet detailing information in a quick format.

Bob Hope Show Fundraiser Flyer

Arkansas Veterans Referral Guide

Surveys/Standardized Instruments

Beck PRIDE Satisfaction Inventory (BPSI)

Ferrans and Powers Quality of Life Index Generic Version – III SF 12

Your Health and Well-Being/SF 12v2 Health Survey: Medical Outcomes Trust and QualityMetric Incorporated.

Videos

Bob Hope Fundraiser video link – This video was the introduction to an evening fundraiser.

Veterans Online Resources

Arkansas State University Quick Links

Arkansas State University Virtual Tour
Federal Student Aid Application
Arkansas State University Registrar's Office -
Veterans Representative
Enrollment Information for Student Veterans and Dependents of Veterans
Apply for Veteran's Benefits: US Department of Veterans Affairs
Article contributed by June Olsen: Veteran Education and Accredited Online Colleges

Military Education

Four Reasons to Choose your Military Education Benefit Carefully: From Military.Com
Army National Guard Tuition Assistance Program
AARTG Military Transcripts
Student-Veterans with Disabilities: VA Vocational Rehabilitation Services Online Application
Career Exploration and Job Analysis: O-Net Online

U.S. Department of Defense - Military Health System

TRICARE Benefit Information
Wounded Warrior Resource Center Website
Warrior Care Website - Service Programs, DOD, Labor and VA Resources
Veteran's Information

The National Archives

Military Research
"eVetRecs" The National Archives: Military Personnel Records

Arkansas Veteran Resources

ArkansasVeteran.com
GoogleforVeterans.com

Mental Health Issues and Programs

Online assessment tools, resources locator for veterans, family members and providers
ebenefits.va.gov

Arkansas State University

Jonesboro, Arkansas

List of Personnel

Susan Hanrahan
Susan Tonymon
Kelly McCoy-Edwards
Roy Aldridge

Nancy Clark
Margaret Horwatt
Sandra Worlow-Brown
Mary Williams

Lynda Nash
Daniel Smith

Charles Carter
Christin Eddinger
Kimberly James

Brianna Segraves
Wesley Gautreaux
Rachel Meredith
Randall Murray

Cory Lawson